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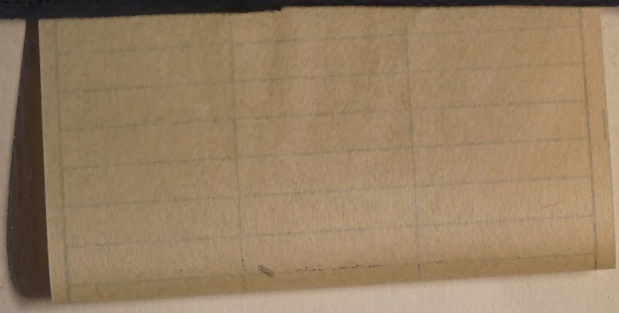

MEMORIES OF THE MONTHS

From a Drawing by Archibald Thorburn.

GOLDEN EAGLE.

Memories of the Months,

Being Pages from the Notebook of a Field-Naturalist and Antiquary,

to wit,

Sir Herbert Maxwell

Bart., M.P.

EDWARD ARNOLD

LONDON
37 BEDFORD STREET

NEW YORK
70 FIFTH AVENUE

1897

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A.

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PREFACE

How often one may hear people who enjoy command of their own time complain of the dulness of life in the country. Poets, children, lovers, and a few other abnormal individuals, derive constant solace from the seasons; but modern life in England has been arranged with studied indifference to them. Man—slowest among vertebrate animals to attain maturity, yet whose years are but as a span compared with those of the oak or lowly lichen—man, leaden-footed among beasts, wingless among fowls—a poor climber—a bad swimmer—has shown his discontent with Nature by devising a scheme of civilisation to make him independent of her infinite changefulness. Artificial illuminants have rendered him indifferent to the radiance of rising and setting suns; neither storm nor shine are

allowed to interrupt the monotony of counting-house, factory, or mine; while, strangest of all, fashion has decreed that the fairest half of the year can only be spent in an overgrown, smoky town, built chiefly on swampy ground, lying along a muddy estuary.

Nevertheless, even the competitive exactions of business and social pleasure have their reaction. An increasing number of people are turning with interest to the eternal industry in Nature's workshop, willing to listen to those who will talk about it. This is a hopeful sign to those who believe that the social health and physical standard of the nation depend in large measure on affection for country life, and that it would be an evil thing should field and flood cease to afford attractions for active minds. It is the conviction that the surest relief to dulness in the country may be found in diverting our attention from the imperfections of our neighbours to the endless variety of animated nature, and to the wealth of story associated with almost every parish, which has induced me to put together the following passages from a very slipshod note-

book. Some parts of them have appeared from time to time in various newspapers; any permanent merit they may be found to possess lies in the fact that they were jotted down in presence of the objects described. No head is constructed to carry about an explanation of half the things noticed in the course of a single morning's walk; but if notes are made at the moment of what attracts the eye, be it a landscape, a ruin, a battlefield, a living creature or a flower, recourse may be had at home to the information abundantly stored in books, and the significance of what seemed commonplace or trivial becomes evident at once. Without attempting to become a specialist himself, each man has at command the accumulated fruits of the labours of specialists. Historians, naturalists, botanists, geologists—all the devoted harvesters of human knowledge—have laid up store of unfailing remedies for ennui, and some part of their secret, it is hoped may be found in the following pages.

CONTENTS

		PAGE
I.	BIRD MIGRATION	1
II.	THE POWER OF BIRDS TO ENDURE COLD	9
III.	A LAKE SANCTUARY	10
IV.	THE CANADIAN POND-WEED	13
V.	THE SHOVELLER	18
VI.	THE SCAUP DUCK	19
VII.	THE GREAT CRESTED GREBE	20
VIII.	SPRING SALMON	22
IX.	WINTER FLOWERS	25
X.	WEST COAST METEOROLOGY	28
XI.	THE BOTTLE-TIT	31
XII.	FEATHERED POLICE	34
XIII.	REVIVAL OF PRIMITIVE FAUNA	36
XIV.	ANGLO-SAXON MONTH-NAMES	39
XV.	THE RIVER OF THOR	40
XVI.	A WINTER DAY IN CAITHNESS	43
XVII.	RAVENING ROOKS	45
XVIII.	ROBERT DICK	49
XIX.	SNOWED UP	51
XX.	THE HIGHLANDS IN WINTER	55
XXI.	THE FROZEN RIVER	58
XXII.	THE FOES OF SALMON	59
XXIII.	THE SMELT	61
XXIV.	A NORTH-COUNTRY HALL	64
XXV.	WRECK AMONG ROOKS	70

		PAGE
XXVI.	THE EFFECT OF FROST ON VEGETATION	72
XXVII.	THE GREEN WOODPECKER	74
XXVIII.	'THE SEA-BLUE BIRD OF MARCH'	82
XXIX.	THE HARDINESS OF SHEEP	83
XXX.	CROSSBILLS	84
XXXI.	THE CRANE	86
XXXII.	THE TORTOISESHELL BUTTERFLY	88
XXXIII.	THE CHOICE OF FOOD BY ANIMALS	89
XXXIV.	VEGETABLE POISONS	94
XXXV.	VEGETABLE MIMICRY	96
XXXVI.	DO VIPERS SWALLOW THEIR YOUNG?	99
XXXVII.	THE DIVINING ROD	103
XXXVIII.	ADDERS	107
XXXIX.	SPRING FLOWERS	107
XL.	BARBAROUS PLANT-NAMES	112
XLI.	THE PRUDENT ASH	120
XLII.	WESTLAND MAY	122
XLIII.	A HAMPSHIRE TROUT STREAM	127
XLIV.	PIKE AND BLACK BASS	130
XLV.	OLD ENGLISH FLOWER-NAMES	135
XLVI.	ROYAL OAK DAY	146
XLVII.	HARDKNOT CAMP	147
XLVIII.	FULL SUMMER-TIDE	153
XLIX.	SUMMER BIRDS	156
L.	A WORD TO ANGLERS IN HOT WEATHER	160
LI.	LOCH TROUT-FISHING	161
LII.	FISHING WITH MINNOW	167
LIII.	SALMO FEROX	170
LIV.	A MOORLAND TARN	174
LV.	THOUGHTLESS CRUELTY	178
LVI.	AN OLD CHALK-PIT	180
LVII.	RATS, MICE, AND VOLES	182
LVIII.	WHY CATTLE SHOULD BE KEPT IN HERDS	184

PAGE

LIX. DOUGLAS 187
LX. RIVER POLLUTION 194
LXI. COMPETITIVE ANGLERS 197
LXII. DRY-FLY FISHING 199
LXIII. SUBAQUEOUS LIFE 201
LXIV. THE GRIBBLE 206
LXV. INTERNAL PARASITES 208
LXVI. AUTUMN FLOWERS 210
LXVII. A BUCKINGHAMSHIRE BALLAD . . . 214
LXVIII. INSECTS AND HARD WINTERS . . . 217
LXIX. A BEAUTIFUL LONDON SHRUB . . . 219
LXX. THE EXTINCTION OF WILD ANIMALS . . 220
LXXI. IN A DEER-FOREST 225
LXXII. STONECROPS 231
LXXIII. BEES AND DONKEYS 233
LXXIV. CAWDOR CASTLE 234
LXXV. THE FINDHORN AND THE NAIRN . . 240
LXXVI. A BORDER TOWER 244
LXXVII. THE HALY WIEL 253
LXXVIII. THE OSPREY 256
LXXIX. THE RUTHWELL CROSS 259
LXXX. A FINE DISPLAY OF COLOUR . . . 267
LXXXI. DOUNE CASTLE 267
LXXXII. LAPWINGS 275
LXXXIII. USEFUL BIRDS 277
LXXXIV. WHY NOT A FUR FARM? 279
LXXXV. STOATS AND WEASELS 281
LXXXVI. A MEMORABLE GALE 283
LXXXVII. BLACK-GAME 285
LXXXVIII. CAPERCAILZIE AND PTARMIGAN . . . 288
LXXXIX. A NOR'-WESTER 290
XC. ASSISTED VISION 291
XCI. MISTLETOE 299

LIST OF ILLUSTRATIONS

THE LAST GOLDEN EAGLE OF THE MERRICK . *frontispiece*
(See page 290.) From a drawing by Archibald Thorburn.

SNOWDROPS . . . . . *vignette on title-page*

STARLING . . . . . *page* viii

THE LAKE SANCTUARY . . . . . *at page* 10
From a photograph by Lady Maxwell.

THE HOME OF THE BLACK BASS . . . ,, 132
From a painting by Sir Herbert Maxwell.

TROLLING FOR PIKE . . . . . ,, 134
From a painting by J. Pollard.

IN GLENTROOL . . . . . ,, 190
From a photograph by Mr. Hugh M'Master

January

I

It would be scarcely possible for any month to present such a violent contrast with itself in different years as we have witnessed between January 1895 and January 1896. It will be long before the Arctic cold of the former will fail to be traced in its effects on trees, plants, and even animals; and its influence on the range of annual bird-migration was very well marked in the case of some species.

Bird-Migration

This periodic movement of bird-life, its motive and degree, has been the subject of close attention of late years. A committee of the British Association supplies forms to be filled up by the keepers of lighthouses all round our coasts, on which returns are made, showing at what dates and in what numbers the different species pass to and from their breeding-grounds. From the mass of information thus accumulated, some new and unforeseen con-

clusions have been come to. The old rigid division of British birds into migratory and resident species has been shown to be untenable, for it has been proved that nearly all birds change their quarters according to the season; and perhaps the only one which can be said to be strictly and constantly resident is the house sparrow. Even the partridge, hitherto looked on as the most confirmed stay-at-home, has been detected making a passing call in Heligoland, as Herr Gätke assures us in his remarkable record of fifty years' observation.[1]

Bird movement is one of the most venerable of mysteries. From the earliest times birds were looked on as messengers between heaven and earth, between invisible and visible beings: the time, the mode, the direction of their flight, were interpreted to indicate the future course of events affecting nations as well as individuals; but we have grown so knowing that, although 'augury' and 'auspice' are still words of honest repute in our language, few who use them connect them with *avis*, a bird, whence they are derived.

But no sooner has mankind learnt to blush for

[1] *Heligoland as an Ornithological Observatory.* By Herr Gätke. Edinburgh: D. Douglas, 1895.

the folly of his ancestors in connecting the flight of birds with coming events, than a new significance begins to dawn, and the phenomena of migration are found shedding light on the remote past of the globe. Excluding grouse, partridges, pheasants, the cock-sparrow aforesaid, and a few — a very few others, the rest of the species in the British list, numbering less than four hundred all told, are known now to occupy different latitudes in summer and in winter. Even blackbirds and thrushes, robins and wrens, commonly regarded as part of the permanent furniture of an English garden, are almost as regular migrants as the swallows, cuckoos, and woodcocks, and have been proved to stream across the sea in vast numbers in spring and autumn, though probably a few individuals remain behind. It is quite true that many kinds of bird may be seen in certain parts of the British Isles in every month in the year. Take curlews, golden plover, and lapwing, for instance. It would be a mistake to suppose that the individuals of these species haunting our moors in July form any part of the flocks frequenting the estuaries in December. The plover seen in England in January were bred in latitudes far north of ours; some of them, no doubt,

in Sutherland and Caithness, where no lapwings remain in winter; those that were bred on the Northumberland moors last spring are disporting themselves just now in Southern Europe, Africa, and Asia. England happens to be situated just where the two bodies of migrants, the northern-bred birds and the southern, overlap; consequently, these species are never without representation on our shores.

And what is the suggestion which has begun to glimmer on observers of these phenomena? A very startling one, in truth. The fact, now pretty well established, that every bird known in our islands breeds at the northern limit of its annual migration, taken in connection with the invincible habit of birds to return to their birthplaces for nesting,[1] seems to point to the Arctic Circle as the original cradle of life. From the character of the fossil flora of Franz Josef Land and Spitzbergen, it may

[1] A good instance of this conservative instinct has been given by Professor Newton, as shown by a pair of stone curlews, a species which haunts the open downs and nests in the barest places. This pair had chosen a barren rabbit warren to rear their young. The proprietor killed down the rabbits and planted up the warren, yet still these stone curlews and their descendants continued to resort to the place year after year, and reared their young in the unfamiliar environment of dense woodland.

be inferred that the climate in these high latitudes was once tropical. Suppose the earth, once a mass of molten mineral too fervid to sustain organic life, gradually cooling down, it would be at the poles where the temperature would first become endurable by living creatures. Through long æons the cooling process went on, till, at last, very few forms of life could endure the winter cold in a region where once tree-ferns towered and giant mosses steamed. Winged creatures were driven forth, following the organisms on which they depend for food; yet to this day the birds, drawn by a hereditary impulse, press as far as possible northwards, towards the land of their origin, to rear their young, bearing witness that in Polar, not in Equatorial regions, lies the source of animated nature.

To understand the full force of this teaching, one must take extreme instances of migration, such as the knot and the curlew-sandpiper afford. These little birds pass so far to the north to breed that it is doubtful if any human eye has ever witnessed their domestic arrangements. More than sixty years ago, indeed, the knot was found in company with its newly hatched young on the Parry Islands,

Melville Peninsula, and Grinnel Land; and later, General Greely took from the ovary of a knot shot in Discovery Bay 'a completely formed hard-shelled egg ready to be laid.' Nevertheless, no authentic specimen of a knot's egg is known to exist in any collection. Those who know the stringent nature of an oologist's quest will best understand the significance of that fact. Of the curlew-sandpiper's breeding-ground absolutely nothing is known.

Now consider how the knot spends its existence. Leaving the Polar lands on the approach of winter, vast multitudes of this little bird, scarcely bigger than a common snipe, pass southward through Europe, Asia, and America, lingering a while on our shores, as well as elsewhere in the temperate zone, then moving on and on, over such prodigious space that, before they turn northward again on the approach of spring, many of them have penetrated to Surinam, Brazil, South Africa, China, and even to Queensland and New Zealand. Not the least marvellous feature in this annual journey is that it is not the old birds that lead the way, but the earliest flights to arrive on our shores in autumn are composed entirely of young birds on their first trip.

Herr Gätke has noticed something of the same

kind in regard to the migration of starlings. These are the first birds to make their appearance in Heligoland at the beginning of the southward movement, as early as the last week in June; but the earliest flights consist entirely of young starlings of the same season. The next travellers to put in an appearance are old cuckoos, which, having no domestic cares, are free to leave as soon as the stock of caterpillars shows signs of failing.

Though the increasing cold of the Polar regions has driven birds farther and farther south, temperature probably is but the secondary cause of the migratory movement; the immediate one is the effect of cold upon the food-supply. Swallows cannot exist without flies, nor hard-billed birds without seed. Flies are much more sensitive to cold than the birds that prey on them; hence when the chill of English autumns checks the hatch of flies, swallows must move to regions where they find a fresh supply. When snow buries the lowly vegetation of Scandinavia, buntings must betake themselves to Scottish shores, where, on rushy moors and in stackyards, they may make sure of subsistence. Cuckoos depend on caterpillars, and nightjars on moths and cockchafers; so these birds

come to us late, and depart betimes; but even so they experience a wide range of temperature. The cuckoo haunting the gorse bushes on the sunny links of Nairn enjoys a much more genial climate than his kinsman halfway up the side of Ben Nevis, though both are in nearly the same latitude. Swallows, too, are patient of a very low temperature, so long as they have a full larder. The autumn swarms of bluebottles which gather on the sunny walls of houses in frosty weather, sometimes tempt swallows to linger so long, that in the end a failing food-supply leaves them without strength to undertake their southward flight. This has been the case to an unusual degree in the autumns of 1894, 1895, and 1896. In 1894 Mr. Stanley Morris counted, in the neighbourhood of Bognor, Chichester, and Fishbourne, one hundred and thirty-eight swallows and martins during November, and twelve swallows and nine house-martins during December. That was, indeed, an unusually mild autumn—the preface to the great frost—but in the last week of October 1895, Tweedside was sheeted with snow, and a bitter nor'easter howled for more than a week. Yet at the beginning of November there might have been seen the uncommon sight of swallows hawking

daily over the snow in pursuit of bluebottles. All these birds must have perished in the end.

II

The power of Birds to endure cold

The fortitude of birds in resisting cold so long as they do not run short of food is very remarkable. On one of the early days of what afterwards proved to be the memorable frost of 1895, I watched some wildfowl on a half-frozen lake in Scotland. It was a day to congeal human marrow; it was freezing hard under an iron sky, and a blinding blizzard flew before a roaring south-easter. There were several hundreds of mallard, widgeon, and teal, with pochards and tufted ducks, and there was shelter for all in the bay behind a wooded island. A few of them took advantage of it, but rather by chance than by choice, it seemed, for by far the larger number of them sat outside for hours on the ice, in the teeth of the piercing blast. Most of them remained motionless, asleep, with breasts to the wind, and head tucked, not under the wing (a bird never sleeps with its head under its wing), but among the soft scapular feathers above the wing. How is circulation maintained in their feet? What is the structure of a

bird's foot, which though sensitive and nourished by a flow of blood, yet can resist frostbite during hours of contact with the ice. When one of these birds wakes, he waddles contentedly to the open water, slips over the edge, swims about for a little, then out again, and to sleep once more. The diving ducks—pochard, tufted duck, and goldeneye—sleep by choice on the water. So long as there is an unfrozen space they will not leave it. It is starvation and not cold from which birds die in a hard season. Woodcocks and seagulls can stand a very low temperature, yet thousands of each died in the long frost. The former have been very scarce in consequence during the succeeding winter of 1895-96.

III

A Lake Sanctuary

This lake is a never-failing source of interest to me. Occupying about one hundred acres, bosomed in sloping woods, and distant from the sea not more than a mile of bird-flight, it is resorted to by great numbers of water-fowl of many kinds. For more than half a century it has been treated as a sanctuary. No impious gun is allowed to be fired there—a regulation which, in my salad days, I used to denounce bitterly as

THE LAKE SANCTUARY.

quixotic and tyrannical. No doubt it appears in the same light to the rising generation; but to the field naturalist it has afforded unusual opportunities of observation. Mallard, teal, coots, water-hens, water-herons, and snipe haunt it all the year round; cormorants and seagulls fly in from the sea; in autumn flights of widgeon, tufted duck, and pochards arrive, and a few scaup and goldeneyes drop in to tea, as it were; wild swans and goosanders are among the rarer visitors, and four years ago a bittern condescended to take up his quarters in the reed-bed at the lower end.

To my taste, a voluntary population like this has infinitely greater charm than a collection of foreign wildfowl, which must be pinioned to prevent them obeying the migratory instinct and departing in spring. A bird deprived of its glorious powers of flight is, of all cripples, the most pitiable, and its plight the most heartrending.

Moving quietly along the woodland paths beside the lake with a spyglass, one gets many a peep into the *vie intime* of some of the wariest of feathered creatures.

It is difficult, by the by, to account for the different degrees of shyness among wild birds, and

some of these degrees are very well marked among those frequenting this lake. The aversion of the cormorant to the most distant sight of man, and the care he takes to keep at least two gunshots from the shore of a lake where none of his kind have forfeited their lives for more than fifty years, may be set down to a guilty conscience. The same cause accounts for the wakeful suspicion of the heron; but why should the blameless ducks and divers manifest such different degrees of confidence? Next to the coot, the most numerous species here is the common mallard, and on this water it is also the boldest, though in the open country or at sea no bird is more difficult of approach than are wild ducks. Their comparative tameness on the lake is owing, no doubt, to so many having been bred in the surrounding woods; but, then, why does not that condition affect the teal also, which always remain nervous and keep aloof? Again, take two of the diving ducks, which, though very similar in habits, are very different in their fear of man. The goldeneye takes wing on his distant approach, but the tufted duck shows an engaging, but often misplaced, confidence in his harmless intentions.

The name goldeneye is commonly applied on the

west coast of Scotland to the tufted duck (*Fuligula cristata*). Both species have a bright yellow iris, and the plumage of both presents strong contrasts of black and white; but the tufted duck, though a pretty and interesting bird, is very inferior in size and beauty to the true goldeneye (*Clangula glaucion*). The latter is known as Rattlewings in some places, because of its noisy flight.

Very fascinating are the vignettes of wild life revealed by the spy-glass on a bright winter morning with snow on the ground. Sweeping the lens slowly round the water-margin, one may detect many a brightly coloured little group, some standing on the snow in sunny nooks under the leafless alder copse, others floating on the placid surface—all perfect pictures of security and content.

IV

The Canadian pond-weed

There is a special reason just now for the content of wildfowl in this sanctuary, because of the extraordinary growth of the Canadian pond-weed. It must have come there as a fragment adhering to the plumage of some travelling duck, for it does not exist anywhere else within a radius of forty miles. One would say that

there was danger of the whole lake being turned into a morass, so dense and all-prevailing are the masses of vegetation; but experience has shown that this strange exotic disappears as quickly as it comes. When first introduced to a sheet of water, it multiplies with prodigious rapidity, and threatens to choke all the channel; but in two or three seasons the soil becomes exhausted, the weed shrinks into a verdant carpet at the bottom, till, after the lapse of ten or a dozen years, the soil has recovered strength to send up another vast crop, which passes away in like manner as the first.

The introduction of this weed (*Elodea canadensis*) into European waters is part of the romance of botany. It is said that a Cambridge professor, having received some specimens from a botanical friend in Canada, incautiously left them in his wash-hand basin, whence they were emptied by an over-diligent housemaid into that bourne whence no specimen returns. A few years later, beds of a weed new to English botanists were found to have taken possession of certain reaches in the Cam, and great was the throwing up of scientific hats at this notable addition to the British flora, which received the name *Anacharis alsinastrum*. But in fulness of time the

Anacharis of the Cam came to be identified with the *Elodea* of Canadian lakes, and the murder was out—the sprigs thrown out of the professor's dressing-room had found a congenial home in an English river. Moreover, the newcomer soon spread beyond the hospitable bosom of the Cam. Getting into the canal system, it threatened to bring to a standstill the traffic, which was of vastly greater importance in those days than it is now; so that an opinion gained ground in commercial circles that either the professor, or his housemaid, or both of them, should be put to a violent and painful death. One circumstance alone seemed to mitigate the disaster. *Elodea canadensis* is a dicœcious herb, bearing, like the aucuba and holly, male and female flowers on different plants. The professor's specimens happened to be all of the masculine gender, therefore no seeds could be produced. It is true that this irrepressible weed has the property of breaking itself into innumerable fragments, each one of which may grow into a huge continent of vegetation; but the lakes and streams of Great Britain are not contrived on a scale to support the prodigious growth which might ensue on a periodic discharge of fertilised seed. Hitherto *Elodea* has been known in British society

only as a bachelor; let no professor nourish the ambition of adding another chapter to the 'Loves of the Plants' by importing his bride also, else there will be unpleasantness.

Meanwhile, although the appearance of this weed on a sheet of ornamental water is nothing short of a calamity, it is a calamity not without mitigation. The angler may weep or swear, according to temperament or sex; but great is the gain to the wild-fowler and naturalist, for this succulent weed offers irresistible attraction to numberless aquatic birds. Here, on the White Loch of Myrtoun (which is the name of our sanctuary), the effect on bird life has been remarkable. Simultaneously with the outburst of *Elodea*, the widgeon arrived. This beautiful duck, though common on the adjacent sea-coast, was never seen, at least by me, on this lake till the autumn of 1893, when five of them spent the winter there, and added their wild whistle to the familiar sounds of the place. The following year there were about a score, and, at the moment of writing (1896) they may be seen in hundreds.

Their presence has given quite a new character to the winter population. The chief arrivals in autumn used to consist of pochards, clad in silvery grey and

black, with russet heads and tufted ducks, in simple but effective livery of sable and gleaming white. Fleets of these conducted diving operations in silence; but now the air is full of the 'whewing' of widgeon, which move in dense restless flocks, swiftly swimming, gobbling, and talking with their mouths full. Usually shyest of all waterfowl, here they have conformed to the habits of the natives, and take wing only just beyond gunshot. Viewed through the glass, their movements are most engaging: one longs for one of those Japanese artists —deftest of all limners of bird form—to fix their changing attitudes and delicate hues. All the duck tribe, when undisturbed, have a comfortable, amiable, contented-with-the-world-as-it-is sort of expression; but widgeon most of all. Then the contrast between a drake widgeon afloat and the same bird on the wing is very fascinating. Afloat, he presents a shapely compact tournure, pearly grey on back and sides, roseate breast, ruddy crest, and fawn-tinted face. He takes wing, and suddenly seems to increase to twice the size, while unsuspected tracts of foamy white become the most conspicuous parts of his plumage.

V

The Shoveller

Besides the widgeon, another surface-feeding duck, the shoveller, has been attracted hither, for the first time in my recollection, by the abundant diet. A little fleet of a dozen make the lake their winter headquarters, and the striking plumage of the male bird is a welcome ornament to the scene. They keep aloof from the restless widgeon and diving ducks, consorting chiefly with the mallard, which they resemble in many respects.

The ungainly proportions of the shoveller (*Anas clypeata*) is notable among a family of birds distinguished for elegance of form. The plumage of the male bird is very showy, consisting of an arrangement of rifle green, bright chestnut, black and slate-colour, on a groundwork of swan white, in general effect not unlike the colour-scheme of the sheldrake. Those anglers who credit salmon with a fastidious discrimination in colour set much store on the russet thigh feathers of the male shoveller, which are held essential to the right composition of the 'Britannia' fly. The female wears a modest garb, not differing greatly from the mottled brown mantle of the female wild duck. But in both sexes the effect is marred by the bill, which is grotesquely long, broad, and

depressed, suggesting an organ of prodigious gluttony. Strange to say, this lateral dilation of the bill takes place during the growth of the young birds, which are hatched with mandibles of the moderate proportions of other surface-feeding ducks. The shoveller never goes in large flights, but is seen either in pairs or in little bands of less than a dozen. It is said to be more of a fresh-water than a marine fowl; and it is remarkable that, although it is widely distributed over the northern parts of both old and new worlds, Herr Gätke, in the course of fifty years' experience, only once knew of its occurrence in Heligoland.

VI

The Scaup Duck

The scaup duck (*Fuligula marila*) is stated by all authorities to be almost exclusively marine in its habits, rarely visiting inland waters. Nevertheless, there is generally a pair or two on the White Loch in winter; and I am inclined to think observers are apt to mistake this bird for the tufted duck, with which it usually consorts, and closely resembles on the water at a distance. The male bird shows black and white, like the tufted drake, and it is only through the

glass that he can be recognised by the silvery grey back, which in the tufted drake is sooty black. The irides of the scaup, also, are white instead of yellow. The female birds are very similar in appearance, though the old duck gets a ring of white feathers on the face round the bill.

VII

The Great Crested Grebe

The latest addition to the lake populace is that of the great crested grebe (*Podiceps cristatus*). In the spring of 1894, being on a visit to Lord Dartmouth at Patshull, in Staffordshire, I was greatly interested to see numbers of this fine bird nesting on a large mere in the park, and conceived a strong desire to get some of the eggs, which I thought it might be possible to hatch, and that the young birds might become naturalised on the sanctuary of the White Loch. Owing, however, to the peculiar nature of the incubation of this species, which, like all grebes, lays its eggs awash, and keeps them constantly wet till they are hatched, that idea had to be abandoned. Imagine my delight when, in November of the same year, I detected a solitary great crested grebe busily fishing in the White Loch. It is a very rare bird in

Scotland, and has only been recorded hitherto as nesting in two Scottish lakes—the Lake of Menteith and, if I mistake not, somewhere in Fife. How this solitary individual found its way, as if in answer to my wishes, to the White Loch, it would be difficult to say, for it is a bird very reluctant to take flight. It does, however, fly strongly when once on the wing, and migrates far and wide.

Well, this lonely bird remained until the great frost locked up the lake for nearly two months (notwithstanding that Camden in his *Britannia* affirms that the White Lake of Myrtoun never freezeth, no, not in the hardest winters), when it disappeared. It returned again in spring and remained, still solitary, throughout the summer of 1895 and the succeeding winter. But the best remains to tell. By hook or by crook, in the spring of 1896, he (or she, for it is not easy to distinguish the sex of these grebes) obtained a mate, nested, and produced three young. It was a pretty sight through the glass in August to watch one of the parent birds fishing, while the young ones played around. From time to time the old bird brought up a little perch; then there was a race between the young ones to secure it. Their movements were so quick, that I failed to detect

whether the old one fed the three young in turn, or whether it was first come first served.

VIII

Spring Salmon

Not less mysterious than the migratory impulse among birds is that which regulates the seasonal movement of salmon. That they should ascend rivers in the autumn floods is intelligible enough, seeing that they spawn in November and December. In like manner, as birds fly as near home as they can to nest, so the instinct of salmon takes them back to their native shallows to reproduce their kind. These inland waters are the home not only of the individuals, but of the race; for it is probable that salmon and brook trout were originally one and the same species. Adventurous individuals of the trout kind dropped into the estuaries of post-pliocene streams in search of food, just as they may be observed to do at this day, whence the boldest and strongest of them pushed on into the ocean, where food of the richest kind is most abundant. They got over the preliminary qualms of sea-sickness, throve abundantly, their complexion changed, they acquired all the airs of pelagic fish, and despised the timid lands-

men. There is, in truth, less outward difference between a salmon in his dark winter dress and a yellow trout than there is between an A. B. seaman and a Hampshire ploughman, or between a dowager arrayed for a Court Drawing-room and the milk-maid who made syllabub for Izaak Walton.

If this be so, it is easy to understand why salmon show such indomitable energy in ascending to the head waters where they were born, hastening away again as soon as the domestic task is over, to surfeit once more on marine dainties. But it does not explain why, at this season, nine months before the earliest spawn is ripe, they should desert the waters of plenty and enter icy Highland torrents, where there is not food to sustain one in a hundred of them. And, be it noted for every fish that runs up British rivers under existing conditions, a thousand would ascend but for net-fishing. It cannot be in search of food that they leave the tide, as the researches of Herr Miescher into the life-history of Rhine salmon have gone far to prove. That patient observer testifies to the steady absorption of the proteids, fat, and mineral salts from the muscles by the ovary, which goes on from the moment the salmon

leaves the sea till the spawn is deposited. Nor is this loss made good in any appreciable degree by food taken in the upward journey; for in almost every salmon taken in the Rhine and examined by Herr Miescher, the intestinal canal has been found to be completely empty, though in a few instances there has been found a small amount of dubious *débris*, generally imbedded in glairy mucus. Indeed, the form of the stomach alters during the ascent of the fresh water—'from being a large thin-walled organ, it becomes contracted and thickened into a tube with hardly any *lumen* (enclosed space), the inner surface of which is puckered and thrown into deep rugæ.' The stomach, in short, ceases to act as a receptacle of food. This may go some way to explain the greater readiness of fresh-run salmon to seize the artificial fly, compared with those which have lain long in fresh water. Further research may dispel the mystery which envelopes the rising mood in salmon, and confirm the view taken by many practical anglers, that it is more from curiosity, mischief, or irritation, than from hunger, that these fish ever take the fly at all. But let not those despair who esteem mystery the crowning charm of angling; there is enough obstinacy among

Tweed boatmen as to the 'right fly' to ensure the exclusion of coldly rational principles in fishing that fair stream for many a day to come.

To sum up, then, the conclusion to which this speculation brings us: salmon which enter a river before their ovaries are much developed do so neither with epicurean nor immediately matrimonial views. They are fish surfeited with sea diet; their tissues are glutted with fat; they can eat no more. So, to escape porpoises, seals, sea-lice, and other pelagic plagues, they seek shelter in the rivers where they were bred.

IX

Winter Flowers

How little like the rigours of last season has been the winter of 1895-96! This day— January 20th — the air is still and warm; the mist which hung so low all morning is yielding slowly before the afternoon sun, which makes the wet woodland ivy gleam like malachite, and turns the fallen leaves of beech and oak to glowing copper. Sheets of snowdrops make mimic winter on the banks; they showed their first blooms before the New Year. Frilled aconites hold up their little golden cups, and already there are a few

azure stars on the trailing periwinkle—Rousseau's favourite flower. Distinguished for its delicious scent is the winter heliotrope (*Tussilago fragrans*). This plant, though it is an exotic, is as hardy as its near relatives, the common coltsfoot (*T. farfara*) and the butterbur (*T. petasites*); in foliage it resembles the former, in flowers the latter. Few gardeners know it or grow it; yet it is a herb of such exceeding merit that none ought to be without it. Nothing but severe frost prevents it flowering freely through the winter months, and a bunch of it scents a whole room with a perfume exactly like that of heliotrope. One word of warning—plant it not among other choice things, but in a border by itself; for it spreads as quickly and is as hard to get rid of as any weed of them all. It will make itself a home on any sunny waste piece of ground, and once established, it is a joy for ever; you and your children to the third and fourth generation will never cease to thank me for telling you about it.

Another fragrant winter flower is seen in English gardens, if possible, more rarely than the winter heliotrope. It is an evergreen shrub, *Azara integrifolia*, worthy of the protection of a wall by reason of the multitude of golden blossoms which spread

along the under side of the sprays in January, strongly scented like hawthorn. More commonly grown is the Japanese *Chimonanthus fragrans*, also known as *Calycanthus præcox*, diffusing its powerful perfume at the dead season of the year. One should be careful to get the variety called *grandiflorus*, though herein nurserymen have customers pretty well at their mercy, and use them rather unmercifully. It is exasperating to order a plant of some particular species, and to find when it flowers, perhaps years afterwards, that it is some other and inferior kind. Within a few yards of my front door is a large bush of what *ought* to be the sweet-scented, autumn-flowering *Clematis flammula*, for that is what I paid for; instead of which it has proved to be a worthless, scentless weed, grown so lustily that it will take half a day's work to remove it.

Another Japanese plant, this time a valuable winter-flowering shrub, in which one is very likely to be deceived in the same way, is the beautiful witch hazel (*Hamamelis arborea*). Time after time I have received from tradesmen the American *H. virginica*, a plant of no merit whatever, and found out too late that no crimson and yellow flowers

were to reward me at Christmas-time. It is worth some trouble to get this shrub, for it is as hardy as box, and the blooms, like small orchids, load every spray.

The hellebore season in properly managed gardens may be made to last five or six months. It opens with the giant Christmas rose (*Helleborus niger maximus*), far the fairest of all, which begins to flower late in October; then come the other varieties of *H. niger*, commonly known as Christmas roses, after which the white, purple, and streaked species, and Dutch hybrids prolong the series till Easter.

X

West Coast Meteorology

People say, truly enough, that we are warm in the west because of the Gulf Stream; but few care to inquire into the meteorological machinery by which it affects the temperature. The mere afflux of a body of water, a few degrees warmer than the rest of the Atlantic, against the western shores of these islands, would never add appreciably to the warmth of the air. If that were so, then it would raise the summer temperature as many degrees above that of the rest of Great Britain as it does the winter temperature;

whereas it is well known that, while the mean winter temperature of the west coast is several degrees higher than that of the eastern and midland districts, the mean summer temperature is several degrees lower.

The actual effect of the part played by the Gulf Stream in this matter is a great deal too complex to be laid bare in a couple of pages. Those who feel inclined to go into the subject will find it admirably discussed in Mr. R. H. Scott's handbook,[1] altogether the most lucid and attractive treatise that has yet been placed in the hands of unscientific readers. Roughly and briefly, the most probable explanation of the problem is on this wise. The atmosphere in the equatorial zone, expanding enormously under the influence of great heat, is perpetually rising to very high levels, whence it overflows towards the poles. Contracting again as it cools, it descends and meets the earth surface somewhere about the thirtieth parallel of latitude. But the circumference of the globe being much less in that region than in that of the equator, the velocity of the movement of the earth surface from

[1] *Elementary Meteorology.* By Robert H. Scott. International Scientific Series. London: Kegan Paul, Trench, & Co., 1883.

west to east is proportionately less. The descending atmospheric current retaining, in the region of less circumference, the higher velocity it acquired in the region of greater circumference, its eastward movement outstrips that of the earth surface in the temperate zones. Consequently, the atmosphere over the British Isles has a constant, steady movement from south-west to north-east, though this, of course, is not always apparent, owing to local winds arising from the presence or proximity of areas of high or low pressure.

The heated air, rising to very high levels, is cooled down before it descends again to the earth surface; but in our latitude, coming in contact on its descent with the warm ocean current known as the Gulf Stream, and remaining in that contact while travelling over the Atlantic, it regains a high temperature from the water. This acquired heat is immediately employed in sucking up moisture from the surface of the ocean, which is borne along in the invisible form of vapour. Our bodies are not sensible of heat so employed, therefore in summer (that is, so long as the atmosphere can use its heat in water-carrying) we are conscious of a coolness at sea or on the west coast. But in winter all is changed. The warm

vapour-laden current, striking our chilly shores, or raised by high cliffs or mountains to a colder level, suddenly parts with its heat, loses its hold on its burden of vapour, which becomes visible or tangible in the condensed form of mist, rain, or snow. Then —and this is the important point—the heat till now employed in carrying vapour is released from its task and goes to raise the temperature of the air.

The influence of rainfall upon temperature is hardly suspected even by those exposed most constantly to its effects. Dr. Haughton affirms that one gallon of rainfall gives out enough latent heat to melt seventy-five pounds of ice or forty-five pounds of cast-iron, and that on the west coast of Ireland the heat derived from rainfall is equivalent to half that derived direct from the sun.[1]

XI

The Bottle-tit

In this long strip of wood facing the western sea, the windward trees are grotesquely dwarfed. The outmost ash and sycamore are aged dwarfs, from four to eight feet high; and though the trees not exposed directly to the blast rise to loftier proportions, yet the tops in the whole

[1] *Physical Geography*, p. 126.

wood are shaved and pared to an uniform slope. Hoary lichen clothes stem and branches, excellent harbour for many minute forms of life, enough to account for the presence of a shoal of long-tailed tits, restlessly flitting and twittering among the branches. There are few birds more fascinating to watch than these absurd little creatures. There are about a score of them in this flock, though indeed it is impossible to count them, for they are never still.

Two features distinguish this tit from all others, namely, a most diminutive bill and a most extravagant tail. The stature of the animal, measured from the tip of the one to the end of the other, amounts to the respectable stature of five inches and a half; but more than half of this is contributed by the three central pairs of tail feathers. Generally it is possible to account for, or at least guess at, the meaning of abnormal features in animals; most often they may be recognised as an adaptation to habits or condition of life, or as an ornament of the males to tickle the fancy of their mates, or they remain as a legacy from some obsolete organ. But in the bottle-tit no such explanation holds good. Both sexes are furnished alike, and there is not the slightest clew to a reason why this diminutive bird should be equipped

with tail feathers double the length of those of any of its congeners.

The nest, too, of the bottle-tit is a remarkable structure; and I, like many other people who are not careful to observe for themselves, used to imagine that its bottle shape was designed to accommodate the long tail of the parent bird, just as civilised man carries a box of peculiar shape to carry his monstrous head-gear. See how vain it is to speculate on such matters! I have never been lucky enough to see the parent bird sitting on her eggs, but I am told by those who have done so that she sits with her tail sticking out of the front door. What, then, is the object of the deep purse-like nest, with its thick sides of warm material? One would say that it was intended to keep up temperature during incubation. The tiny body of the mother, not much more substantial than that of one of the large hawk-moths, could not replace the heat escaping from an open nest; indeed, it is wonderful how it can supply enough to hatch the large number of eggs, sometimes from ten to eighteen. But, then, if that be the purpose, how comes it that the gold-crested wren, a creature no bigger than a bottle-tit, has never invented a lid to the cup-shaped nest in which it rears

its young? In habits, as well as in appearance, there is a great difference from other tits in the longtailed tit, or, if you prefer it, the mufflin, bottle-tit, poke-pudding, long-pod, caper-longtail, mumruffin, or huckmuck, for rural fancy has been fertile in devising names for this tiny creature. It goes about its quest for food in an amateurish unbusinesslike way, very unlike the eager, professional scrutiny of the pretty blue tits, of which there is a pair examining the sprays of yonder larch. Very different, too, from the little tree-creeper, a dingy and humble relative of the gaily pranked woodpeckers, which is quartering every inch of that oak-stem with short, quick, jerky pace. Its total length from head to tail is about the same as the bottle-tit (we have got among the midgets to-day); but in this instance the object of prolonged tail-feathers is not difficult to divine, for they are stiffened and divergent, so as to form a useful prop to the proprietor in his work on vertical surfaces.

XII

Feathered Police

Now this little drama, enacted on this January afternoon by these diminutive performers, is part of the great scheme known as the balance of Nature. Here, within a space of

fifty square yards of a wind-swept wood, are three distinct species of birds, all in pursuit of the same quarry, namely, insect life in various stages. One might think that neither larva, nor chrysalis, nor creeping creature could escape the diligent search of so many pairs of bright, beady eyes. But insect life is not only gifted with enormous reproductive powers; it is in itself so admirably contrived for existence, that, were special provision not at hand to keep it in check, it would possess the face of the earth to the exclusion of every other. Mr. David Sharp, who has in charge the insect department of the excellent Cambridge Natural History now being published, observes with professional pride—

'The larger part of the animal matter existing on the whole lands of the globe is, in all probability, locked up in the forms of insects. Taken as a whole, they are the most successful of all the forms of terrestrial animals.'

Antinous and the Venus de' Medici are not in it, it seems. In fact, mere human beings would be crowded out sooner or later but for one providential circumstance, namely, that this vast populace of six-legged creatures is divided into two hosts, one of which is perpetually destroying the other. Even this were not enough, for the victors would make

life intolerable for other forms of living things; so birds, beasts, reptiles, and fishes of many kinds have been appointed to police these dangerous classes.

XIII

Revival of primitive fauna

No part of the British Isles was more completely denuded of its native wood than this south-western angle of Scotland, and with the forest disappeared much of the woodland fauna. We still dig out of the clay at our river-mouths horns of red deer of a size that could be attained only in the warmth and shelter of wide forest; so that it does not need the more direct testimony, which is also present, of trunks and roots of oaks, Scotch fir, birch, and yew to prove how greatly the character of the land has changed during man's occupation. But during the present century much has been done in the way of plantations; and it is interesting to observe, still more interesting to assist, the return of some of the wild creatures to their ancient heritage.

Squirrels have found their way back across the treeless Galloway uplands within the last dozen of years. Possibly their reappearance may be due to the escape of captives; anyhow, here they are in

considerable numbers, and they are looked on by woodmen with feelings not altogether friendly. They are mischievous, no doubt, eating the shoots and leaders of young pines; but who would judge harshly a creature with such bright eyes and such engaging manners?

Badgers, formerly plentiful, as attested by many ancient names of places containing the syllable 'brock,'[1] had quite disappeared, but an importation of five from Berkshire about twelve years ago has produced a numerous progeny. There would be risk of arousing angry feelings by any proposal to restore our polecats, which I remember seeing trapped in my boyhood. There is probably not one in the whole district now, though they, too, have their names embalmed in the Celtic topography of the south-west: witness such a name as Corriefecklach—that is, *coire feacolach*, the corrie of the polecat or stinking one.

Jays—noisy, gaudy, voracious jays—hateful to English gamekeepers, have been surreptitiously turned loose, and the Scottish *garde-chasse* has not woke up yet to their profligate nature, which, after

[1] The name for the badger—*broc*—is the same in Gaelic as in Anglo-Saxon; hence Brockley, near London, means the same as Brocklach and Carsenabrock in Galloway.

all, is no worse than a jackdaw's. When you have cleared the country of ugly jackdaws, say I, it will be time to talk of exterminating the handsome jay.

We had some difficulty in establishing jays. First we tried putting their eggs under blackbirds. There was not the least difficulty in getting eggs; it was quite remarkable how generous people in the south showed themselves in the matter of jays' eggs. One keeper in Surrey, hearing of my wants, set to work, and collected about fifty; but as he was at the pains to blow them all before sending them off, the consignment did not greatly assist our scheme of acclimatisation. In the end, the desired object was attained by the purchase of a dozen young jays from Mr. Bailey of Mount Street, and now our woods resound with the harsh chiding note of these and their offspring.

February

XIV

We have lost something in discarding the Anglo-Saxon names for the months in favour of the classical style. It was ridiculous to borrow the name February from our Roman conquerors, because they chose to celebrate their Februa, Lupercalia or purifying festivals, in that month; there was some sense in the Saxon name Sol mōnath, mire month, which, like many of the other month-names, gives us a glimpse of England as it was when the earliest ploughs had just begun to scratch its surface. The mire month—just as the old Dutch used to call it Sprokkel-maand, the thaw month, when the earth softens after the winter cold.

Anglo-Saxon month names

The Saxons had their purifying season also in the old pagan days, but it was September, which they called Hālig monath, which is quite as sensible as our servile compliance with the Roman calendar in calling it the seventh month, whereas it is the ninth in our year. Then what a finely descriptive

title they gave to March—Hrēth mōnath, the fierce month. As for the other months, December was Se ærra Geōla, the former Yule, as January was Se æftera Geōla, the latter Yule; April was Ēaster mōnath, taking its name, according to Bede, from Eostre, a Teutonic deity of Spring. It is curious that neither Easter nor Lent derive their names from Christian sources. Lent is the old English name for Spring, from the Anglo-Saxon *lencten.* May was Thrīmylce, because the cows might then be milked thrice a day. June and July were Se ærra and Se æftera Lītha, the earlier and the later warmth; August was Wēod mōnath, the weed month; October was Winter-fylleth, probably the winter fall; and November Blōt mōnath or blood month, from the slaying of beasts.

If the native names for days of the week have worn so well in use, what cause had our people to distrust those for the months?

XV

The river of Thor

A wide, dark plain, without a single tree or even a bush in sight for miles, swept by a ceaseless, bitter wind, lashed by fierce blasts of snow, and overhead a stooping canopy of

grey cloud. That is the impression of a Caithness landscape on one alighting at Halkirk station on a February noon.

No scene more forlorn or inhospitable could be found within the British Isles. The prevailing brown tones of the land are hardly more varied than the steel grey of the heavens; brown heather, brown peats, brown stone houses; even the roofs—most of them—are of brown flags, though the great whisky distillery of Gerston strikes a noisier key with its covering of purple Welsh slate. The ploughed land is brown too, and the wan pastures nearer pale brown than green. Through the great plain winds a sullen river, the Thurso, whose waters, though snow-fed, are brown also. Its course is silent, save where, at long intervals, brown barriers of rock oppose and work it into sudden short-lived roar of wrath. Else there is no sound but that of the wind, rising from sigh to shriek, and falling back again to sigh and sob. Rows of rust-coloured Caithness flags, square and smooth as tombstones, separate the fields, so that it seems as if this were in truth a land of the dead, set with unending graveyards. Where the crofts have made way for large farms, leagues of barbed wire inter-

sect and divide the holdings, a form of barrier even more forbidding than the tombstones. Then, afar on the southern horizon, Morven, landmark for all Caithness, lifts his lonely peak, marking 'the high light' with snowy cone. Only in the north, where the cloud lowers darkest, the headlong precipices of Hoy, southmost of the Orkneys, refresh the eye with deep, rich blue.

What can it have been that induced the Norsemen, for centuries lords of this shore, to name this river after their most vengeful deity? Thurso—that is, *Thor's a*—the river of Thor—should be something majestic or appallingly destructive, one would say; but this stream, though dark and deep, is insignificant in volume compared to the rivers of Scandinavia, and even when in full flood is not to be feared like the Spey or the Findhorn. Perhaps their imaginations were touched by the intense dreariness of the near landscape and the mysterious gloom which so often hangs over the sea. It was a sense of the overwhelming forces of nature that has caused their English-speaking descendants to twist the old Norse name of the headland lying to the west of Thurso Bay into one expressive of the implacable storms which rage there in winter. Cape

Wrath, we call it, but the Norsemen named it *Hvarf*, which means the 'turning-point'; for it was here their black *kyuls* turned southward in sailing to the Sudrey —the southern isles—now called the Hebrides.[1] After all, perhaps the most reasonable explanation of Thurso may be that the river was named after a harmless fisherman called Thor.

XVI

A Winter day in Caithness

There is no word to describe the climate to-day so fitly as the Scottish one 'snell.' Man and beast must be cowering under the humble roofs dotting the wayside and the fields, for we have driven three miles along the dreary road to Westerdale without encountering either. A string of wild geese passes overhead with much clangour, hardly out of gunshot: of half

[1] The histories of some names are curious. This one—Sudrey, the southern isles—has disappeared from our maps, where Sutherland, originally conferred by these same invaders from the north, still remains; but to this day we continue to talk of the diocese of Sodor and Man, by reason that it once consisted of Man and the Hebrides. The name Hebrides took its rise from a copyist's blunder. Ptolemy and the earliest geographers wrote it Ebudæ or Hæbudæ. The *i* character carried no dot till the eleventh century, so there was some excuse for the copyist, who mistook *u* for *ri*. Hæbudæ was, therefore, written Hebrides in a manuscript from which an early edition of Pliny was printed; the name took root with us in that form, and was carried by Captain Cook to the southern hemisphere.

a score golden plover whisking low along the marsh, only one utters a single note of unspeakable melancholy; a single, inauspicious cormorant wings a business-like flight towards the lochs of Strathmore, where, as he knows, is good store of eels; the only cheerful creatures abroad are chirruping bevies of snow-buntings—a bird of which no degree of cold or storm seems able to lower the spirits or abate the activity. Even the rooks become listless and depressed under stress of weather.

There is, however, one condition of climate which even the snow-buntings cannot withstand. As long as a few acres of grass and rushes remain bare of snow, so long can these cheerful little fowl pick up their frugal fare of small seeds. But when deep snow wraps field and fell in uniform pallor, they must move elsewhere, driven, not by cold, but by hunger. Thus it came to pass early in February, 1895, that almost every snow-bunting had left Caithness. Only two or three pairs of crafty old birds might be seen still haunting the stackyards and threshing-mills.

Where had they gone? I found an answer the very day I returned to London. A paragraph in the morning paper informed me that large quantities

of snow-buntings had been seen about Highgate, where, of course, scores of them were captured by birdcatchers. Never more might they see the iron cliffs of Hoy; never more in the broadening light of spring cross the wide sea to their loved nesting places in Arctic lands. They must beat out their little lives in the back slums of Bermondsey or Whitechapel, or linger till the advancing heat puts an end to their sufferings. For even Bechstein, most skilful of birdkeepers, found it impossible to keep the snow-bunting alive in captivity for more than a few weeks, so impatient it is of a close or warm atmosphere.

There are many doleful chapters such as this in the annals of the bird trade.

XVII

Ravening Rooks

The presence of rooks in this treeless land suggests speculation, not only as to where they can build their nests, but where they can find sticks to fashion them withal. It is roundly affirmed that they do so in whin bushes; and it was not till I had sojourned some days in the district that I became aware of sundry groves of stunted, wind-warped ash-trees round the houses of Dale,

Gerston, and Brawl. Gramercy! what a jolly time these rooks have! No one ever molests them, yet the havoc they work in the stackyards must be seen before it is believed. The slender ricks, locally called 'screws,' ridiculous things shaped like pepper-castors, are riddled to honeycomb—torn to utter dishevelment by these swarthy marauders. Rock pigeons and starlings attend to profit by the ruin; the loss consists, not only in what is eaten, but in the damage of rain and thawing snow pouring into the stacks. Nobody seems to notice this except strangers such as myself, and threshing proceeds in leisurely fashion, as occasion arises for fodder; yet, assuredly, had rooks been landlord's game, the country would have resounded with angry clamour about them long ere this.

The fact is, what to do with our rooks is becoming a difficult question in the north. Up to a certain, or, to speak more precisely, an uncertain point, the farmer is entitled to count them among his allies, by reason of the number of grubs and other pests that they devour. But there is certainly a measure beyond which this bird ought not to be allowed to increase. In England rooks are kept fairly in check, because rook-shooting is a favourite

amusement in spring. A pitiful sight it is, to be sure, the massacre of a colony just at the period when the law protects most breeding birds; and the only justification for it is that of necessity. In Scotland it is far otherwise. There, nobody ever thinks of shooting rooks for sport, and few people do so from motives of police. The consequence is that they are multiplying beyond all due limits; they have the marauding propensity of the crow tribe, and other and more beautiful or interesting species are suffering from their depredations. I feel rather bitterly on this matter just now, having had to mourn last spring the loss of a nest of Canadian wood-duck eggs, pilfered by a pair of these swarthy miscreants. True, there are sinister whispers abroad that the mischief was wrought by jays, which, as described above, we have succeeded in re-establishing in Galloway, a district whence they had been absent for centuries. But inasmuch as there was no eye-witness to this deed of guilt, and whereas there are five hundred pairs of rooks in these woods to every pair of jays, and seeing what incorrigible egg-stealers rooks become at times, it is reasonable to set down the crime to the score of the ugly birds rather than of the pretty ones.

There are no more remorseless revolutionists than men of science. Which of us has not grown up in the pious belief that the type of monarchy among birds was supplied by the eagle? Few people paid much attention to MacGillivray when, sixty years ago, he announced that the crows (*Corvidæ*) must be accounted among the most highly organised birds;[1] nor (though in the interval the light of evolution had been thrown on the tangled maze of systematic classification) was much importance attached to the late Professor Parker's indorsement of MacGillivray's view, pronounced forty years later:—

'In all respects, physiological, morphological, and ornithological, the crow may be placed at the head, not only of its own great series (birds of the Crow form), but also as the unchallenged chief of the whole of the *Carinatæ*.'[2]

Nevertheless, here comes the very latest authority of all, Professor Alfred Newton, the collaborateur in classification of Herr Gadow, and sums up thus in the introduction to his admirable *Dictionary of Birds*:[3]—

'It is, therefore, confidently that the present writer asserts, as Professor Parker, with far more right to speak on the subject, has already done, that at the head of the

[1] *British Birds*, i. p. 485.
[2] *Zoological Societies Transactions*, ix. p. 300.
[3] London: A. and C. Black, 1896.

class *Aves* must stand the family *Corvidæ*, of which family no one will dispute the superiority of the genus *Corvus*, nor in that genus the pre-eminence of *Corvus corax*—the widely-ranging Raven of the Northern Hemisphere, the bird perhaps best known from the most ancient times, and, as it happens, that to which belongs the earliest historical association with man.'

The eagle is for ever discrowned; allegiance must be paid to the raven as the monarch of fowls of the air.

XVIII

Robert Dick

To enter thoroughly into the spirit of *penultima Thule*, one must read Smiles' *Life of Robert Dick*, baker, botanist, and geologist of Thurso. There are few things more pathetic than devotion to an intellectual pursuit, maintained without a word or look of encouragement, interest, or sympathy from friend or neighbour. Such was Dick's lifelong lot; nay, the townspeople, shrugging their shoulders, used to hint that he was 'daft,' and murmured at him because his bread suffered by reason of the ardour of his studies. He used to set the loaves soon after midnight, and, leaving his house at four in the morning, set off at a run for Morven, distant some thirty miles of moor and quag, and, having filled his satchel with plants from

marsh and crag, return on foot over the dark plain in time for the morrow's baking.

At other times Dunnet Head would be the goal, where the flags are richest in fossil fish. A neighbour found him prying and hammering one day in a quarry. 'What are you seeking there, Robert?' he asked. 'Fish,' quoth Robert; and straightway the wayfarer bore the tale to Thurso how Dick, the baxter, was gone clean demented, for he was looking for fish in Gerston quarry.

Dick, however, had his moments of ecstatic reward, such as are known only to intellectual workers. One such came when he discovered the little northern grass, *Hierochloe borealis*, till then unknown as a British plant. Another was when Sir Roderick Murchison, attracted by reports of Dick's collection of Old Red Sandstone fossils, travelled to Thurso to inspect it. One may picture the tremulous delight of the obscure but faithful disciple, all unused to exchange thoughts on the subject ever uppermost in his mind, hovering round the great man, and laying up every syllable that fell from his lips, to be mused over and repeated in many a long, lonely ramble.

A sad calamity overtook the solitary student. He was no longer, as he had been at first, the only

baker in Thurso; a rival shop had been set up, and competition became keen. One day the steamer from Leith took the bar of Thurso in a storm. She carried a consignment of flour for Dick, which was badly spoilt by salt water. It was not insured; poor Dick could not afford to buy any more, and just worked the damaged stuff into loaves. The result was more than his remaining customers could stand; they all went off to the new shop, and Dick was ruined. To meet his liabilities, he had to part with his noble collection of fossils—the work of his life. Murchison secured it for a hundred pounds, and it may still be seen in the Geological Museum in Jermyn Street.

Had Robert Dick baked better loaves, his name had borne no significance for this generation; as it is, every foot of the way between Dunnet Head and Morven is enriched with memories of the baker naturalist of Thurso.

XIX

Even Avignon is not buffeted more persistently by the winds than Halkirk. If north, south, and west fail to produce a gale, then it blows hard and steady from the east. But when, as

Snowed up

happens at times, the fierce cold abates and the biting blasts are lulled, the cloud mantle rolls away, and a truly glorious sun swings overhead. The very bareness of the land, which makes the bitter wind so intolerable, seems to double the amount of sunshine; the browns of the landscape waken into dull gold, russet, and maroon; the leaden surface of the pools and winding river change to intense azure, and the distance takes tender tints of violet and pearl. It is then one becomes aware of the splendid quality of the atmosphere, and comes to understand how the hardy men of Caithness, braced and sweetened by actinic virtue, can put in long spells of ferocious weather, enough to knock all courage out of coddled city folk.

For nine days past (February 1895) the village of Halkirk has been the only part of the universe to which we have had access, or, indeed, with which we have had any intercourse, except by telegram. It happens so seldom that the even tenor of the mail bags and daily papers is interrupted in these islands, that one feels the exponent of a novel series of sensations. Not one of the old people in the village can testify to a severer 'lying storm' than that which we are now experiencing. Not that it

is the actual weight of snowfall that has brought about our isolation; but for drifting, the average depth would not greatly exceed eight inches. It was the furious wind that did the mischief, piling the snow into wreaths twenty and thirty feet deep. For the last five days, a hundred men have been cutting away at one such drift, about five miles long, on the line between Altnabreac and Forsinard. Every shovelful of snow has to be lifted three times, for the only way to clear the cutting is in a triple tier of stages. Two trains were imbedded there for several days, and when the men reached them yesterday, it was found that the wheels were all frozen hard, and the carriages were as immovable as ever. These surfacemen themselves were in considerable jeopardy, for they were working many miles from any shelter or supplies; a train of provisions, sent up from Helmsdale, got snowed up in a fresh drift near Kinbrace, and the poor fellows suffered severely from hunger and exhaustion before they could be relieved.

Meanwhile we, who are not yet on short commons, find our lot not without alleviation. The tempest which brought the snow has passed away, and the climate has become divine. The frost is

intense at night, but morning by morning the sun rises in unclouded splendour, and, sailing along his course low in the southern sky, changes the vast expanse of white into all kinds of opaline and pearly hues.

The magic of sunshine is never more potent than on a great snow-field. All the shaded surface is delicate blue, reflecting the azure of the sky; the illuminated portions are warm cream colour or rosy. Now and then there comes a change. A huge bastion of cloud, table-headed, with gleaming crest and trailing violet skirts, rears itself in the north and spreads across the firmament. The sun is first veiled with a tawny mist, and then passes out of sight. Immediately the whole landscape seems to shrink and cower. The scene, so smiling and radiant a moment ago, becomes forlorn or grim; Morven's solitary peak is hidden from view; the air, so delicious in its calm keenness, turns harsh before the chill breath of the storm, and already the flakes are flying fast. But the evil hour passes, the sun blazes out once more, and there is something indescribably exhilarating in the atmosphere.

In spite of the cold and exposure of this land, chest and lung complaints are very rare. Consump-

tion, the terror of the milder west, is almost unknown; altogether, there are many worse places to be snowed up in than Halkirk.

Nevertheless, here, as in less salubrious plains, the King of Terrors claims his tribute. A few days ago, while the storm was at its height, there was a burial in the bleak little kirkyard, perched on a bluff crag, round which Thurso creeps between bastions of ice. Roads were impassable for all but foot passengers, and these struggled with difficulty through the wreaths. God's acre was swathed in white: only in one spot had the pall been pierced and the ruddy earth thrown out to make a grave. The mourners gathered round, a group intensely black upon the snow. No pomp of funeral procession, no roll of muffled drum, no wailing pipe, no sobbing organ could have lent pathos to the simple severity of the scene, silent save for the rushing mighty wind.

XX

The Highlands in winter

How few summer tourists have any idea of the winter aspect of their favourite haunts! In an enclosed country, a fall of snow has the effect of dwarfing the landscape. Distant

objects are brought near, and near objects show up so sharp and black in the surrounding pallor that the view loses its breadth. But among mountains the sense of size is increased. Hills seem higher and valleys vaster under snow. The pass between Dalwhinnie and Dalnaspidal, even as viewed from the comfortable cushions of a railway carriage, presents a scene during this great snowstorm of February 1895 not soon to be effaced from memory. Hardly a rock is visible ; one unbroken sheet of white covers the moorland foreground, wraps the frozen river, and towers on the mountain domes to meet the deep blue of the sky.

Herds of red deer may be seen close to the railway at various places. Hard pressed as these have been for food for some weeks past, the hinds still seem in fairly good condition, for the herbage is still fresh under the snow, and deer can scrape away the covering with their sharp hoofs. Still, it takes a great deal of grass to fill the stomach of a stag. Where they are beyond reach of hand-feeding, the poor beasts must be feeling the effects of short commons ; and it will go harder with them yet in the long, laggard Highland spring, for it is late before any life stirs in the wan hill herbage. We

are accustomed to regard red deer as beasts of the mountain, like chamois and ibex, but naturally they prefer the woodland and vale. Greedy man has grasped all the fat places of the earth, so deer have been driven to the high grounds, and have deteriorated greatly in consequence. Highland antlers, even the best of them, are puny affairs compared with those produced in German forests or in Windsor Park. The immense horns which are dug out of lowland mosses and estuaries show what magnificent heads were produced in Scotland when the deer were free to roam where they listed. As long, however, as a stag can get a dry bed, he can endure a very low temperature, and a hard winter like this tells with less severity on a red deer than a wet one.

There is news from Rannoch, the bleakest tract of moorland in Scotland, of the heaviest snowfall within living memory. It will be hardly credible to those who know the red deer only when the stags are in 'pride of grease' in August and September, when they are the wariest of all beasts of the chase, that the poor things have been so humbled by starvation, that it is with difficulty they can be kept out of the forester's and farmer's

houses. At Dall, on Loch Rannoch, the hinds actually took corn out of the forester's hand, and at Dunalastair stags and hinds crowd down to hay laid close by the public road.

XXI

The frozen river

The riverside remains the chief attraction for all forms of life, though very few parts remain unfrozen. Snipe rise before you, flit a few yards, and alight again. This frost, if it continue, means death to them, for they are already so weak that they cannot make their way to more genial latitudes. Wild geese, generally so plentiful in the meadows between Halkirk and Westerdale, have departed, but mallard still linger on the marshes, and a few mergansers frequent their usual fishing grounds. This morning a brace of wild swans were on the point of alighting on the Manse pool, where I was fishing, when they caught sight of me, and winged their way further up the river. The gillie told me he knew exactly where they would be found, and assured me I could get a fine chance at them. I surprised, and perhaps disgusted, him by saying that if I were to be offered

twenty guineas a piece for these lovely creatures, I would never draw a bead on them.

Fishing, quotha! Yes; the contemplative man still pursues his recreation in the limited space left unfrozen. The space would be still more limited but for the exertions of the gillies, who break and lever away the floes with heavy poles, and fish may be tempted to look up at a big fly after the water has been rested for half an hour. But there are not many clean fish in the only pools to which access may be had through the snow, though kelts are numerous and greedy in these. We have only got two clean fish in ten days.

XXII

The foes of Salmon

Few living creatures have more numerous or persistent foes than the salmon. The sea, the rivers, the earth, the air, are full of creatures looking out for a succulent meal. Were it not that the salmon is a physical masterpiece, not only perfectly adapted for an active career and capable of laying up such store of condensed nutriment in its muscles as enables it to undergo long periods of privation, but also endowed with enormous reproductive powers, the race must have

succumbed long ago to adverse influences, and have ceased to exist. Even now, when but few places remain unfrozen in the river, gloomy gluttonous cormorants ply their nefarious trade among the young fish. One morning lately, two of our men were sent to break the ice on the pond connected with the hatchery, where the yearling parr are kept, till the silver spreading over their jackets shows that the time has come for their release on their seaward journey. Hardly had the men turned their backs, when a cormorant flew to the place, like a great winged bootjack, and began poaching. Not this one, but its fellow, paid the penalty of death, and in falling disgorged a trout of nearly a pound in weight.

Later on, when the smolts, or young salmon, begin to descend, a sight may be witnessed which might suggest misgivings to the advocates of indiscriminate protection of all wild birds. Seagulls of various kinds assemble on the shallow fords, and swallow thousands of young fish, each of which, were it spared, would return some day as a spanking twenty pounder. It goes to my heart, too, to bear witness against goosanders and mergansers, those birds of dainty plumage and aristocratic

mien; but the gillies have good cause to hate the 'sawbills,' as they call them, because of the many smolts which gasp their last in the serrated mandibles of these active fellows.

XXIII

The Smelt

There is a humble member of the noble family of Salmon which deserves more consideration than has been shown it hitherto. The smelt, or, as we call it in Scotland, the sparling, known in France as the *éperlan* (*Osmerus eperlanus*), is usually classed by fishermen among those technically known as 'white fish,' in distinction from 'red fish,' a term applied to salmon and trout. As a white fish, it has been captured and sold for centuries, and not one of the innumerable Salmon Fishery Acts affected it in the slightest degree. So matters might have continued till, not very long ago, it was discovered that meddlesome men of science, never weary of dissecting, classifying, and inventing long-tailed names, had assigned the smelt a distinguished position between the char and the grayling, to which it was clearly entitled in virtue of possessing an adipose fin and other structural peculiarities. Henceforth, the un-

obtrusive little smelt was to hold an exalted place among that *haute noblesse* of scaly creatures—the *Salmonidæ*—to share all the benefits conferred on these by the wisdom of Parliament, and to entail on the unwary all the penalties enacted against unlawful fishing.

This discovery spread dismay among certain quiet estuarine communities. For generations the fisher folk had netted the smelts in their passage to and fro, believing them to be just as legitimate quarry for the white fisher as haddocks or flounders. Suddenly the lessees and owners of salmon fisheries asserted their right to the smelts as 'red fish,' whereby some stormy feelings have arisen among the dwellers at the mouths of rivers frequented by this dainty little fish.

Londoners have no idea of the real excellence of smelts. To be eaten in perfection, the fish should be carried from the nets into the kitchen and served forthwith. There comes to mind a quiet fishing village on Solway shore. It is early on a winter morning, but the air is still and warm. The small-meshed seine is coming slowly to shore, filled with a shoal of pearly 'sparlings.' As they are drawn from the muddy water of the estuary, a fragrance

as of cucumbers and violets diffuses itself, plainly perceptible at a distance of more than fifty yards.

The fish, as soon as landed, are neatly packed in small boxes, and sent off to the great towns, where they command a high price—3s. or 4s. a pound. But by the time they arrive at their destination they will have lost much of their delicate texture and exquisite flavour, which we shall presently be savouring in the inn parlour close at hand.

The smelt is an exclusively estuarine fish. In March it ascends to the limits of brackish water, and sheds its spawn profusely on stones in the river bed. There is no close-time provided for these fish by law; hence in some rivers—the Annan and the Nith, for example—where they were plentiful in former times, they have been netted to the verge of extinction, and the industry, once very profitable, no longer pays. All fishermen to whom I have spoken on the subject agree that a close time is desirable; but so long as it is not made binding upon all alike, none is willing to hold his hand, while others may be fishing at other parts of the same stream.

March

XXIV

A North Country Hall

WOULD you view fair Levens aright? you must visit it in earliest spring, for that is the season in which to realise its peculiar charm. Summer, in sooth, is sweet there; nowhere does June sunlight fall on fairer prospect of sloping lawn, grey crag, deep-bosomed wood, and bending river; but then—every English park is enchanted ground in summer. In autumn this northern vale is rich with ripening grain, stretching away to the silvery limestone bluff of Whitbarrow, and round it to the blue loops and crests of the Cumberland range. But westland autumns are of precarious mood; it is depressing to gaze on a sloppy harvest through streaming panes. In wan winter twilight, when lights beckon early across the frore, the old hall is almost too picturesque, suggesting the cheap art of Christmas cards. But though winds of March, sweeping bare the land

to prepare it for summer finery, often bring cold more searching than midwinter, there are basking places among the velvety alleys and under the hoary walls of Levens garden where one may forestall the solstice.

There is a smell of impatient vegetation in the air; the blackthorn has veiled itself with a chilly haze of bloom; already there are patches of timid verdure on the hawthorn hedges; beneath them the cuckoo-pint has shot up groves of glistening blades,

> 'And along the tracks, like troubled sprites,
> The dead leaves whirl along.'

But the brightest gleam in memories of early springtide in Westmoreland comes from the daffodils. Copsewood glade and roadside bank, mill meadow and village orchard, upland lawn under limestone crag,—all are decked in the fairy livery of green and gold. One may drive for miles through this fair champaign and never lose sight of Lenten lilies —in wreaths or scattered clusters, in links or shining sheets.

Even in this county, rich as it is beyond most in examples of old English halls, Levens stands by itself in the unaltered character of both house and surroundings. One is even disposed to complain of

the lofty larches, towering over the entrance, as out of place, for there were no larches in England in the days of the Cavaliers. The deer park has not varied from the limits set out in the royal licence to enclose it, granted in 1360. It is true that the original building, a pele tower of the ordinary border type, dating, as its arched doorways bear witness, from the thirteenth or early fourteenth century, has been largely added to. The Bellinghames, lords of this manor during the fifteenth and sixteenth centuries, were a wealthy family; one Sir James, knighted by James I. on his first progress through the northern counties, spent liberally on Elizabethan architects, to whom we owe the spacious hall, the drawing-room with its noble mantelpiece of carved oak, the quaint library with still richer oak carving, and the numerous bedrooms above, which to wander among is occupation for a long rainy afternoon. There prevailed in those days a practice, much to be commended to modern builders (unless they are ashamed of their work), of carving in each room the initials of him who caused it to be built or decorated, with the date. Thus the mantelpieces in all these rooms are inscribed with different years from 1586 to 1617, while heralds and genealogists delight in collating

the chronology from the escutcheons embossed and painted on the plaster cornice dividing panelled wall from fretted ceiling, or inserted in the stained glass of the lattices.

Except a few bedrooms over the kitchen and offices, and a well-conceived tower over the garden front, there has been no interference with the Elizabethan work. Elizabethan, that is, with traces of northern influence; for the chimney stacks, built of small flakes of limestone, climb the skies in the cylindrical form peculiar to the district. The interior is wonderfully rich in old oak. The rooms are panelled throughout; there is abundance of carving, exquisitely delicate and rich, although some of the walls, notably those of the dining-room at the west end of the hall, were spread with stamped and highly coloured Spanish leather by Sir James Bellingham in the seventeenth century. This profusion of decoration had its rise in rivalry with the neighbouring squire of Sisergh,[1] and contributed to the insolvency which forced Alan Bellingham to part with his beautiful home in 1690.

In that year the property passed into the hands

[1] The tapestry lining of one of the rooms at Sisergh was bought in 1891 for South Kensington Museum, and when it was taken down, was found to conceal a beautiful oak panelling.

of Colonel Graham, or Grahme, as he used to write it, of the house of Netherby, to whom Levens owes its pre-eminence among the gardens of England. Not elsewhere—except, it may be, at Hardwicke—remains such a perfect display of the lost topiary art. Graham employed Monsieur Beaumont, who, as is recorded upon his portrait at Levens, laid out Hampton Court gardens for James II. There was a garden at Levens before the arrival of Beaumont, probably in the Elizabethan style, with 'rare figures of composures,' knots and pleached alleys; for on the green there still remain bowls bearing the Bellinghame crest, as well as those engraved with that of Graham.

Minute details of the works undertaken by Beaumont have been preserved in letters from the steward Banks[1] to his master, dating from 1699 to 1703. In the autumn of 1701 he records a great storm, which 'hath done great damedg in the garden a mongst trees, bemun (Beaumont) is very much disturbed about is trees, he wants stakess for them.' It is satisfactory to know that his wants in this respect were supplied, for he 'made the carpenters

[1] It is a coincidence that the present steward at Levens is named Banks.

cout out the stackes out of the hart of a good eish tree.' 'Damedg' having been made good, the Frenchman went to work with a will. His name proved a heavy stumbling-block to the honest steward's orthography, being rendered variously 'bemun,' 'bamant,' 'beamant,' and 'Mr. Beomant,' generally without a capital initial, as if in stout Westmoreland contempt for the foreigner. 'The ould brockenwinded coach hors dyed this day comeing from Milthropp with a sack of otes on his back. We shall not know what to do in the garden for him, and the other all most killed weth contenually working . . . but beamont hath put all the borders in as good order as he cane, he is now moving and altering his flowers and plants, and allso hath poulled down the heg was round the mellion ground, and hath planted the helli bore round the place, and he got very good staeks coot and set round it.'

Such letters, full of placid details of a country gentleman's recreation, are in strange contrast to many others which must have been delivered by the same posts; for Graham, a staunch and restless Jacobite, was proclaimed repeatedly, and once was imprisoned on a charge of high treason. His ambitious schemes, his darkling plots, his hopes, scares,

success, disappointment,—all may be traced in his correspondence. How little fruit they bore! But the lowlier achievements of M. Beaumont endure in perfection at this day.

It is fairy ground, this quiet pleasaunce of Levens, a shred of a bygone age, surviving restless modes and ephemeral habits. Yews, elaborately clipped into semblance of towers, columns, vases, lions, and peacocks, stand in preposterous array along the broad paths; and between their sombre forms, in borders deeply edged with ancient box, there flame out each summer 'bemant's' crimson and white roses, carnations, lilies, and wealth of old-world flowers.

There is brewed at the Hall, after a time-honoured recipe, a dark, heady beverage called 'Morocco.' It is produced on state occasions, and many have learnt to pledge heartily the prescribed toast, 'Luck to Levens while Kent runs!'

XXV

Wreck among Rooks

There is a belief prevalent in some districts that rooks begin the foundations of new nests, or repairs on old ones, on the first Sunday in March. Be that as it may, the daffodil moon of 1895 has been one of sore

tribulation to Chaucer's 'crow with voice of care'; for the violent gale which swept over the Midlands on Sunday the 24th not only levelled many of the finest trees in the rookeries of Warwickshire and Berkshire, but tore hundreds of nests, laboriously brought to completion, out of the branches of those left standing, scattering the material in shapeless ruin, just as the birds were beginning to lay. On the whole, rooks have fared scurvily this season. Thousands perished in the mighty gale which visited Scotland on December 22. They were killed by falling trees, or blown from their roosts and dashed against the swaying boughs. For days after that memorable night, the woods were full of piteous cripples, broken-winged, which, except those that were mercifully put to death, eked out a miserable existence, till the great frost came to put an end to their suffering. Others, again, were blown into the water and drowned. In Lord Stair's beautiful grounds at Castle Kennedy in Wigtownshire, there is a large rookery on an island in one of the lakes. The day after the storm, the gardeners collected the corpses of upwards of five hundred rooks, washed up on the lee shore.

XXVI

The Effect of Frost on Vegetation

Gardeners may be heard bewailing now (1895) the havoc wrought among shrubs and herbs by the extraordinary cold; but it serves a more useful purpose to note those plants of doubtful hardihood which have resisted it. In the gardens in and near London, perhaps the most notable and unexpected instance is afforded by an evergreen of comparatively recent introduction to this country, a native, too, of New Zealand, which is a region producing a flora of which the greater part has proved impatient of our climate. *Olearia Haastii*, as botanists have somewhat clumsily named it, is a shrub of the order *Compositæ*, typified by our own daisies and thistles, with leathery, evergreen leaves, beautifully buff on the under surface, and loaded with small, white, fragrant flowers in July and August. After the bloom has passed, its place is taken by a mist of cottony seeds, which persist all winter. Not only has the *Olearia* proved as hardy as common box, but it is framed to resist the malign influence of London smoke, so fatal to most evergreens.

The common gorse has suffered sadly from frost-bite, and most of the commons near London will be

grievously dull this spring in consequence. It is nearly all killed to the ground, though I have noticed a few bushes still green and vigorous on Wandsworth Common. What a glorious thing it is, and how little our poets have done to celebrate it! One never realises its splendour till a season has to be passed without its goblin gold. Let no sceptic ever profanely call in question the legend of Linnæus, who, it is said, used to cultivate gorse in pots in his greenhouse, for it will not endure Scandinavian winters, and when he first saw an English common covered with gorse in bloom, burst into tears of gratitude.

Myrtles endure a very low temperature with impunity, though they seem to require the breath of the sea to keep them vigorous in our latitude. Here, in the west of Scotland, not only have the plants trained on walls suffered no more than the nipping of a few sprays, but those in the open ground have lain comfortably lapped in snow ready to start into fresh growth. I felt much anxiety about a fine specimen covering the end of a toolhouse here. Planted as a cutting in 1851, it reaches twenty feet high, the stem is twenty inches in circumference, and each autumn it bears a load of fragrant, creamy blossoms.

Every lover of Nature has cause to rejoice at one result of the great wind of March 24, 1895, namely, the righteous ruin which has overtaken many of those odious field advertisements, which disfigure the landscape all along the principal lines of railway. Hundreds of these have been blown down: may Priapus, god of gardens, blister every hand put forth to erect them again!

XXVII

The Green Woodpecker

The voice of spring is manifold. Hardly had the grip of the cruellest winter of this generation been relaxed ere the old familiar sounds began to be heard in the woods. The chiffchaff and the wheatear, ever among the earliest arrivals, seem to have landed together; for both are reported on the same day (March 21) from the counties of Surrey, Devon, Worcester, and Dorset. But one of the most trustworthy of spring heralds is never absent from English woodlands—the yaffle or green woodpecker. The throstle and the merle are often beguiled into song by fallacious February sunshine, and let no wayfarer leave his wraps because the ringdove coos smooth assurance from the elm. There is no trust to be placed in

these. But as soon as you hear the yaffle's laughing note you may be sure the sap is rightly astir, and that the grove will presently grow dim with new greenery. The jay, harshly garrulous at all other times, falls cunningly silent in the nesting season; but the yaffle cannot hold his tongue in the honeymoon.

Many green woodpeckers perished in the great frost; for, as is well known to those who study their habits, these birds depend almost as much on ants and other terrestrial insects as on those harbouring in trees. A heavy snowfall cuts them off from this source of supply. It was, therefore, with special pleasure that I listened to their notes this morning (March 20) among the old oaks of the Forest of Arden, giving assurance that the tribe is far from extinct. The yaffle is one of the bonny birds that run heavy risks by reason of their gay plumage. His sage-green mantle, flaming crest, yellow rump, and chequered tail-coverts have brought him into great request with the 'plume' trade, which our gentle ladies, by their passive obedience to despotic milliners, so deplorably encourage. Not that the other sex can be acquitted of purblind guilt in this matter. There are very few, if any, English manors

where the death register of game and 'vermin' has been kept for so many years, or in such minute detail, as at Lord Malmesbury's beautiful place, Heron Court, near Christchurch. There are some mournful entries in the following list of vermin destroyed by the keepers on this estate during the year 1852:—

Squirrels, ...	220
Jackdaws, ...	210
Woodpeckers, . . .	50
Hedgehogs, ...	250
Cats, ...	52
Stoats, ...	90
Magpies, Jays, . . .	95
Hawks, ...	60
Rats, ...	300
Total, . .	1327

It would be hard to say which were the most blameless in respect of injury to game—woodpeckers or hedgehogs; the last named, it is to be feared, still figure in the black list of most gamekeepers; but there is ground for belief that during the last forty years the character of the yaffle has been cleared from all suspicion.

Indeed, there is hardly any bird which, by reason of its insatiable activity in the pursuit of insects

hurtful to vegetation, better deserves protection at the hand of man. Luckily, all the woodpeckers are very wary in their habits, seldom offering a chance shot to the mischievous hedgepopper, and requiring to be approached stealthily, even by the friendly observer of its movements. It is worth some pains to watch the yaffle at work upon a tree. Beginning at the root, it raps incessantly as it works up the stem, probably with the double purpose of disturbing any lurking insects and of detecting any unsound wood where fat grubs may be harboured. As soon as the game is afoot, the tongue of the bird comes into play—a most serviceable instrument for picking up creeping things. The tip is horny and armed with a few bristles; the bone of the tongue is prolonged backwards in two branches, reaching round the back and over the top of the head, and meeting again in the cavity of the right nostril, where they are fixed. Inside the bow thus formed runs a strip of muscle, which, when it is contracted, bends the bow and extrudes the tongue. Then, beneath each ear is a gland discharging a glutinous secretion into the trough of the lower mandible, where the tongue lies when at rest, so that the bird is able to catch the smallest creeping thing.

Admirable as is the tongue of the green woodpecker as an example of consummate adaptation of structure to requirements, it is by no means the only organ which has been modified to suit this bird's peculiar mode of getting a livelihood. The foot is what is known as 'zygodactyle'—that is, arranged with two toes in front and two behind, and the tail-coverts are stiff, with sharp points, so as to act as a support in climbing. Then the breast-bone has been pared away in a remarkable manner, so as to clear the tree-trunk in ascending, for the yaffle never 'climbs down.' When he gets as high on a tree as he thinks there is any need for, he either begins operations again at the base, or flies off in a jerky, undulating way to another. The pectoral muscles are wanting in the depth and power necessary for prolonged flight, which matters little to a bird like the yaffle, of exclusively silvan habits, though it is a mystery how some of the other species, similarly specialised, can undertake their regular annual migrations in spite of this disability. Dr. Bowdler Sharp has recorded how five young great spotted woodpeckers were brought to him and Mr. Seebohm when in Heligoland. These birds had alighted in an exhausted state in a potato field.

The characteristic formation of its breast-bone has been an advantage to the yaffle in a way that can hardly have been taken into account when it was planned in Nature's workshop. The resulting shallowness of the pectoral muscles—those muscles which make the breast of a partridge such delicate fare—is the reason why omnivorous man has never admitted the yaffle to his larder; or at least, if he has done so, it is not recorded that the experiment was ever repeated. Even in France, where everything at all edible is turned to immediate use for the table—where the native culinary genius is so wonderful that I have eaten a kelt salmon in that land, and enjoyed it too—even in France, I say, nobody has ever concocted a palatable dish of *piverts*. Thus it comes to pass that, though one may travel in France for days in spring, and never hear the gladsome note of blackbird, thrush, or lark, you cannot be long in a French woodland without being greeted by the yaffle's well-known cry. It is as inseparably associated with the oak copsewood, which represents the ancient forests of the Loire, as the tassels of mistletoe are with the roadside poplars.

Yet another peculiarity of this family must be

noted, even at the peril of the reader's patience, for I own to a special weakness for woodpeckers.

The affinity of birds and reptiles in the scheme of animated Nature has been recognised long ago. The green woodpecker recalls the reptile kingdom in another respect besides its creeping habit, its extensile, viscid tongue, and certain anatomical peculiarities in the bones of the head. Its young are hatched as naked as young lizards, instead of being protected with down, like nearly all other nestlings. Perhaps, however, seeing that the nest is always in the heart of a tree, down has been dispensed with as a superfluity, unnecessary to young things so well protected against cold draughts.

We have two other native species of woodpecker —the Great and the Lesser Spotted—not less remarkable than the yaffle for their gay coats; but they are less likely to attract attention, for, unlike their green cousin, they do not frequent anthills, they are not so talkative, and they generally move among the higher branches of the forest. Black, barred with white, with sparks and streaks of scarlet, is the livery of the males of both *Picus* (*Dendrocopus*) *major* and *minor*. The female, also, is started in life with a smart cap of red feathers; but, strange

to say, when the young hens attain the age of six months, all red disappears from their plumage, not by a moult, as Yarrell supposed, but by a change in the feathers from red to black. A similar change takes place in the young males; the feathers of the fore part of the head remain scarlet till the first moult, which comes at the age of about ten months, when they are replaced with black. Simultaneously the back of the head and neck, hitherto black, becomes adorned with scarlet feathers, and remains so through life. No reason has been found for these changes; indeed, the conspicuous colouration of the British woodpeckers is very surprising and unaccountable, inasmuch as birds of similar haunts and habits, such as the wryneck, treecreeper, and nuthatch, have the advantage of protective colouring, closely resembling the bark of trees which they frequent.

Woodpeckers—the green as well as the two spotted kinds—are still to be numbered among the avi-fauna of London, their appearance in Kensington Gardens having been noted several times in recent years.

XXVIII

The Sea-blue Bird of March

Shortly after Lord Tennyson's death, a controversy took place in some of the papers about the identity of the bird referred to by him in *In Memoriam* as 'the sea-blue bird of March.' The weight of opinion seemed in favour of the wheatear, which was not quite a satisfactory conclusion, seeing that the wheatear has not a single blue feather in its plumage. To quote Yarrell's description—'The head, back, and scapulars are of a fine light grey.' Now Tennyson was far too close an observer of nature to write sea-blue when he ought to have said pale grey; so it was interesting when Dr. Gatty came forward with a little anecdote to set the matter at rest. It seems that the poet once asked Dr. Gatty what bird he thought was described in the phrase; and on Dr. Gatty making a bad guess, he told him it was the kingfisher.

Why of March, rather than any other month, was the next question, seeing that we have kingfishers with us all the year round? A writer in the *Pall Mall Gazette* has solved that puzzle by quoting a stanza from Alcman—

βάλε δὴ βάλε κηρύλος εἴην,
ὅς τ' ἐπὶ κύματος ἄνθος ἁμ' ἀλκυόνεσσι ποτῆται,
νηλεγὲς ἦτορ ἔχων, ἁλιπόρφυρος εἶαρος ὄρνις.

To wit—'I would, I would I were a cock kingfisher, which flies over the wave-crest with the hen kingfishers with careless heart, the sea-blue bird of spring.'

XXIX

The hardiness of Sheep

Episodes of the great frost continue to come to hand. Everybody knows the excellence of 'blackface' mutton; but the superior hardiness of the animal which produces it is not often so precisely tested as it was by the following incident, recorded on the authority of Mr. Maclellan of North Balfern, a farmer well known in the south of Scotland. On February 6th forty black-faced sheep were buried in a snowdrift, of which thirty-six were dug out with great labour, the remainder being given up as lost. On the 18th the shepherd noticed a small air-hole in a great drift, from which vapour was escaping. Digging down, he succeeded in liberating two of the missing ones, which bounded lightly away, and joined the rest of the flock without more ado, seemingly none the worse for their twelve days' fast. Three half-breds—that is,

half blackface, half Cheviot—on the same farm lay in a drift for four days. These were helpless when taken out, and had to be fed on gruel for a fortnight before they were able to go with the rest of the flock. Instances have been reported of blackfaced sheep, buried in the same storm, surviving after entombment for twenty-five days.

XXX

Crossbills

The winter of 1894-5 will remain memorable for the number of unusual winged visitors it brought to our inhospitable shores; and, as it seems impossible for an Englishman to see a rare bird without instantly taking measures for its destruction, there is the inevitable tale to tell of beautiful and interesting creatures done to death.

Two species of crossbill have their place in the British list, one of which, *Loxia curvirostra*, is a regular native, though very far from common. The other, *Loxia bifasciata*, is so named because of two conspicuous bars of white across the wing coverts. It is a rare straggler from the pine forests of Russia and Siberia, and the plumage is of a richer and brighter crimson than that of the regular British species. A small party of these two-barred cross-

bills were forced hither by stress of weather in February. One male, in fine feather, was shot out of a flock of five or six, near Keynsham, in Somerset, and another out of a small flock of the commoner kind at Enniskillen.

There is a peculiarity in the plumage of this showy bird which often has caused disappointment to collectors, and occasionally brings indoor naturalists to ludicrous disaster. The glowing crimson of the head, neck, and shoulders fades rapidly after death, so that the stuffed crossbills in museums give a very misleading idea of the appearance of the living creature. See how neatly Mr. J. W. Tutt has walked into this trap in his *Chats about British Birds* lately published. It is one of a kind of book with which we are all painfully familiar, written up to illustrations which have done duty many times before.

'The Common Crossbill,' says this great authority, 'is a remarkable bird; . . . many have doubted that it nested in the British Islands, although the presence of very young birds in their striking juvenile plumage of dark green has been very strong *prima facie* evidence of their having done so. As they get older, they become of a dull brown colour, *but when they get the adult plumage are of a quite bright greenish-yellow mixed with brown and purer yellow.*'

Good Mr. Tutt! he has described very fairly the

appearance of the dusty specimen from which this portrait was drawn; but apparently his reading has not extended to Longfellow's version of Mosen's poem, which preserves the monkish legend of the crossbill, twisting its beak by trying to wrench out the nails that held the dying Saviour to the cross, and everlastingly staining its plumage crimson with the sacred blood.[1]

XXXI

The Crane

The capture during last month of a rarer visitor than either of the crossbills has been notified from county Armagh. The local newspapers report it as a large grey bird, 'a fine specimen of the Danish stork.' Now the stork (*Ciconia alba*) is not grey, but black-and-white, and is not a winter, but a summer visitor to these latitudes. The bird in question, which was taken on the ice on Darton Lough, is probably not a stork,

[1] Mr. Tutt, however, does make occasional excursions into poetry, which are even more remarkable than the occasions when he ignores it. For instance, on p. 59 of the work quoted there is the following delightful rhapsody on the subject of the skylark:—

'In the deep blue vault of heaven, when the summer sun shines brightly over the fields, *the words of the old German hymn*—

"Hark! hark! the lark at Heaven's gate sings"—

comes (*sic*) back to us in sober truth.'

but a crane (*Grus cinerea*), which in the sixteenth century commonly bred in Norfolk, and in Ray's time came in large flocks to Cambridgeshire and Lincolnshire at uncertain intervals. But for some reason unknown, this interesting bird has taken offence with us, and its sonorous note is no longer heard in our land.

The blunder of an Irish newspaper in confounding cranes and storks has at least two respectable precedents. The first was set by Rafael, who painted cranes devouring fish in the foreground of the cartoon of the Miraculous Draught. The crane, unlike the stork, does not feed on fish; there is, therefore, the less excuse for Dr. Bowdler Sharpe setting the second precedent, by inserting in his *Naturalist's Library*[1] the figure of a crane devouring an eel, especially as in the text he quotes Mr. Seebohm to the effect that 'the crane is not known to eat fish.'

[1] *British Birds*, vol. iii. p. 113.

April

XXXII

PRESBYTERIAN Scotland makes no festival of Easter, therefore Easter Monday is not a bank holiday north of the Tweed; yet, falling as it did in 1895 on April 15, it was not only accentuated by unclouded sunshine, but also, in the naturalist's calendar, by a profuse hatch of the small tortoiseshell butterfly (*Vanessa urticæ*). This common species is indeed one of the most beautiful of British lepidoptera. The gentle contrast of cinnabar red, azure and velvety black, spread in well-designed mosaic on the wings of this insect when newly escaped from the chrysalis, is quite as delightful as the more gorgeous display of the exotic kinds. It is probably the hardiest of all British butterflies. Sunny gleams in February and March often call to life pale and tattered individuals of the foregoing autumn's brood, which have slumbered through the winter under the eaves of

The Tortoiseshell Butterfly

some barn or behind the shutters of a village school. The winter of 1895-6 was so preternaturally mild that there was nothing very surprising that, even in the rigorous climate of Caithness, the small tortoiseshell should have hybernated successfully. Still, it was worth noting that, when I was starting from the inn at Halkirk to fish on January 31, feeling something tickling the back of my neck, I put up my hand and caught a tortoiseshell butterfly. But the foregoing winter of 1894-5 was not of a temper to spare many of these sleepers; the marvel is how even the chrysalides, suspended head downwards from the tail-tip, can have resisted a temperature of several degrees below zero. One would say that in order to preserve unfrozen the circulatory fluid of the pupa, the rind of the chrysalis must possess an extraordinary degree of non-conductivity.

XXXIII

The choice of food by animals

The small tortoiseshell is one of many handsome insects of which the larvæ feed on the stinging nettle. Some of the most aristocratic caterpillars make this plant their staple diet—the red admiral, for example, the lordly pea-

cock, and the rare Camberwell beauty. One can understand, of course, how, if the stinging difficulty be overcome, the nettle affords store of wholesome food; for, gathered young and tender during this month, it makes a palatable soup for men and women, and provides no sorry substitute for spinach. So, also, the preference of many kinds of caterpillars for a succulent salad of poplar and willow leaves is quite intelligible; and there is a fitness in such delicate fare as violets to nourish the infant forms of such lovely insects as the dark-green and silver-washed fritillaries, and—rarest of our wood butterflies—the Queen of Spain fritillary. The fragrant lady's bedstraw supports a host of the brightest and choicest lepidoptera; cress and rapes supply wholesome diet for the whites and orange-tips. Most of the gem-like blues are reared on clover and leguminous plants, though even in this family there is one—the holly blue (*Lycœna argiolus*)—with a depraved taste for holly and ivy leaves. But that is mild provender compared with some. The vast genus of Spurges (*Euphorbia*), spread over the greater part of the globe, contain a milky juice in great abundance and of intense acridity, so painfully poisonous that it is difficult to imagine a

digestive apparatus competent to deal with it. Yet in this country we have the spurge hawk-moth (*Deiliphila euphorbiæ*), of which the caterpillar feeds exclusively on the sea-spurge (*Euphorbia paralias*).

Perhaps, however, the readiest example of inscrutable taste in vegetable diet is afforded by the ever-to-be-execrated rabbit. This creature, which, having allowed it to do irreparable injury to our native flora, we have transported to work similar mischief in Australasia, shows a remarkable and unaccountable discretion in its diet. Luckily for us, though greedy, it is not omnivorous. It gnaws the common laurel, which we consider poisonous, and avoids the rhododendron, belonging to the innocuous heath family. It devours crocuses and rejects snowdrops, both members of the lily tribe; it eats hepaticas to the ground, and avoids their cousins, the winter aconites and wood anemones. Luckily for our lanes and woodland walks, the rabbit cannot digest the common primrose; but almost all the exotic kinds, such as auriculas, are destroyed at once, and even the coloured varieties of cowslip and common primrose are not invulnerable.

Perhaps the results of a lifelong contest with rabbits may not be without use to those who delight

in adorning their parks and grounds by planting out and naturalising handsome shrubs and herbs. The following list contains well-nigh all the ornamental plants which may be relied on to defy the attacks of rabbits; though there are others, such as the American partridge berry (*Gaulteria shallon*) and several species of barberry, which, if protected when first planted out, can take care of themselves afterwards :—

SHRUBS.

Azalea, ... } Rhododendrons, . . . }	all species and varieties.
Honeysuckle, . . .	both the native species.
Fly-honeysuckle, . .	*Lonicera xylosteum.*
Box.	
Butcher's Broom, . .	*Ruscus aculeatus.*
Tree Pæonies.	
Lilac (all species), . .	*Syringa persica*, etc.
Syringa (all species), . .	*Philadelphus coronarius*, etc.
Snowberry, ...	*Symphoricarpus racemosus.*
Hardy Fuchsia, . . .	*Fuchsia Riccartoni.*
Spurge Laurel, . . .	*Daphne laureola.*
Mezereon, ...	„ *mezerium.*
St. John's Wort (all species),	*Hypericum calycinum*, *arietinum*, etc.
Spindlewood, . . .	*Euonymus europæus.*
Guelder Rose, . . .	*Viburnum opulus.*
Wayfaring Tree, . . .	„ *lantana.*
Laurustinus, . . .	„ *tinus.*
Cotoneaster (all species), .	
Hawthorn (all species), .	*Cratægus oxyacantha*, etc.

SHRUBS—*continued.*

Dogwood (all species, including the American), . .	*Cornus sanguinea*, etc.
Sea Buckthorn, . . .	*Hippophæ rhamnoides.*
Roses (all species).	
Spiræa (all species).	
Deutzia.	
Ribes (all species).	
Arbutus (all species).	

HERBS.

Snowdrops, ...	*Galanthus nivalis.*
Snowflakes, ...	*Leucojum vernum.* etc.
Daffodils (all species), . .	*Narcissus pseudo-narcissus, poeticus*, etc.
Star-of-Bethlehem, . .	*Ornithogalum umbellatum, nutans*, etc.
Tulips of all kinds.	
Solomon's Seal.	
Asphodel (all species), . .	*Asphodelus ramosus*, etc.
Lilies (some species), . .	*Lilium umbellatum, dalmaticum*, etc.
Torch Lilies (all species), .	*Tritoma uvaria*, etc.
Saffron, ...	*Colchicum autumnale.*
Squills (some species), . .	*Scilla campanulata, verna*, etc.
Primrose (some species, including *P. japonica*, but none of the Auricula section).	
Iris (all the 'flag' species).	
Anemone (probably all species).	
Crowfoot and Buttercup (several species, including *Trollius*, but not the pretty	

HERBS—*continued.*

white *Ranunculus amplexicaulis*).	
London Pride, and many other kinds of Saxifrage, but not the *Crassifolia* section.	
Lungwort, ...	*Pulmonaria mollis.*
Periwinkle, both the large and the small.	
Monkshood, . . .	*Aconitum napellus.*
Winter Aconite, . . .	*Eranthis hyemalis.*
Harebell (many species, especially the Giant Harebell, *Campanula grandis*).	

Violets, foxgloves, asters (Michaelmas daisies), mulleins, several kinds of geranium, and all terrestrial orchids.

XXXIV

Vegetable Poisons

To return to the subject of vegetable poisons—the vastness of this field of inquiry may be realised best by considering some of the commonest phenomena of the hillside and hedgerow. All through the coming summer, plants and trees, stimulated by the sunshine which everybody hopes is in store for us, will be busy drawing material from the soil, the atmosphere, the water, to be worked up in their secret and intricate labora-

tories into essences—nutritive and beneficial to some organisms, neutral or hurtful to others. How very little we know of the process, still less of the reason for the effects of the various products!

Take the common stinging nettle, referred to above as the favourite food of so many caterpillars. The stinging mechanism has been explained to us as consisting of hair-like tubes, sharply pointed, each with a bulbous reservoir at its base, filled with an acrid fluid which, in some exotic species, is of deadly potency. We conceal our ignorance of the real nature of this fluid, and of the means of counteracting its effects, by explaining to each other that its poisonous principle is neither corrosive, nor gaseous, nor neurotic, but irritant, which leaves the matter much as every village child knows it.

But how is this poison produced, and why? Whence is it distilled, and by what unerring process? If it is to protect itself, and not out of sheer cussedness that the nettle stings, what does it seek protection from? Not, as we have seen, from caterpillars; and if it is a device to secure immunity from man, it is singularly ill conceived, because, being a plant of some beauty of foliage, its offensive properties only serve to bring upon it persecution,

which it might avoid if it were a more amiable neighbour. And how comes it that the Dead Nettles (*Lamium album* and *maculatum*), growing in the selfsame places as the Stinging Nettle, though belonging to a totally different family of plants, have sought protection by assuming foliage in close imitation of that of the Stinging Nettle, and yet have failed to distil poison from the soil or turn its hairs into stinging tubes?

XXXV

Vegetable Mimicry

Of all the mysteries of plant life, none brings us up with such an imperious 'Halt!' as this power of simulation, of which the Dead Nettle offers such a familiar example. The more closely it is considered, the further it seems to be from intelligible explanation. The most salient features and properties of plants are devised, for the most part, to ensure reproduction, and especially that degree of cross-fertilisation which is essential to the vigour of the race and its success in competitive existence. But a few plants get on better without cross-fertilisation, and ingenious devices are contrived to guard against it. Sometimes these devices are simply structural, as in the fig, of which

the flowers are inside what becomes the rind of the fruit; but often they show a profoundly intellectual strategy. The Bee and Fly Orchids, for example, which, but for the ravages of greedy collectors (Lord! what a mischievous race they are!), would be much more commonly seen on English downs than they are, transact their own fertilisation, and don't want to be bothered by busy bees and inquisitive flies; so, look you, what a cunning plan has been resorted to in order to secure their privacy. No bee will enter a flower in which another bee is already at work; so, to protect the entrance, the lip of the flower has been enlarged into a process exactly resembling the business end of a bee (in the Fly Orchis it resembles the hind-quarters of a fly). To the Spider Orchis (*Ophrys aranifera*), another British species, it seems to have occurred how a still more violent shock might be administered to the nerves of troublesome insect callers, so it displays at its front door the likeness of a large spider.

Some of us are vain enough to imagine that the fragrance of flowers was invented for the special gratification of the senses of man, though the true object seems to be the attraction of insect visitors. The perfume is generally agreeable, but by no means

always. Certain plants which covet the presence of carrion-loving flies emit odours most revolting to human nostrils. The giant *Rafflesia*, with flowers fully a yard in diameter, stinks like putrescent meat, thereby attracting swarms of flies. The *Rafflesia* is a tropical plant; but some forms of *Arum*, notably *Arum dracunculus* and *crinitum*, which practise a similar form of deception, may be grown in English gardens. The last-named is probably the most hideous flower in existence, for which reason, perhaps, it is seldom seen in this country. It resembles a gaping wound, lurid with gangrene, nearly a foot long. The fraud is thoroughly effective; I have seen the flowers of *Arum crinitum* in my garden just as completely fly-blown as if they really had been decaying flesh. The wriggling of the maggots round the inflorescence (which, as in other Aroids, rises like a column within the spathe) ensured communication between the male florets on the upper part of the spike and the female florets lower down.

An example, still more familiar to everybody in this country, of deceptive odours emitted to attract flies, is that of the Stinkhorn Fungus (*Phallus impudicus*), a common object in our woods in autumn.

Now how shall we attempt to account for these and scores of other instances of deliberate deception? Plants, so far as we are informed, are destitute of will or intelligence; even if they possessed them, it is not possible to understand how they could modify their own structure. Yet it is almost equally difficult to imagine the Ruler of the universe occupying Himself in imitating some of the humblest of His creatures, such as spiders and bees, in order to protect others still more humble, such as orchids. Equally hard to imagine Him directing the concoction of disgusting smells. For some purposes it is to be greatly regretted that we have abandoned our belief in fairies.

XXXVI

Talking of poisons reminds one of adders, our only poisonous snake, which, during this month and last, may have been seen in heathy places, basking in the spring sunshine; and the mention of these recalls a venerable controversy, the flames of which have broken out afresh lately. Seven lustres must have run their course since a good hare, as old and tough as human credulity, was started in the columns of the *Field*, and, lo! it is running as stoutly as ever.

Do Vipers swallow their Young?

'Do vipers swallow their young?' It has been asserted from a very remote antiquity that they do —that when danger threatens, the parent snake opens her mouth, into which the snakelets straightway pass for shelter in the gullet. Recognised authorities have ranged themselves on each side in this discussion; some relying on the abundant evidence of people of known integrity, who claim to have been eye-witnesses of the feat; others refusing to be convinced without ocular and anatomical proof, usually a postulate in questions of natural science. Admittedly, it is a delicate matter to prove, owing to the very nature of it. First, you must find your viper; not at this season though, when vipers are most accessible, but late in summer, after the young are out. Next, you must alarm the brood, and watch closely to see if they enter their parent's mouth. Then (and here comes the really trying part of it) you must secure the throat of your viper by tying a piece of string securely round it. Probably it will be found more convenient to kill your viper before this stage of the experiment; but this it behoves you to do delicately, as if you loved her (which, if you are a properly constituted human being, you certainly don't), so as not to derange the

internal anatomy. Lastly, you must be careful never to mislay the address of Professor Stewart, Curator of the College of Surgeons, so that you may despatch your trophy to him without delay, claim the reward of £5 which was offered many years ago, and is still offered, by Mr. Tegetmeier, and immortalise yourself by setting a famous controversy at rest. Nothing short of this will do. It may seem an excess of *scepsis scientifica* to hesitate to accept the testimony of people above suspicion of intentional dishonesty or exaggeration, who declare they have seen the young vipers entering the mouth of the parent. Nay, more: such persons more than once have dissected snakes killed after they have been seen to swallow their young. But, in the first place, the nerves of anybody suddenly coming upon a snake usually become somewhat disturbed, which is unfavourable to cool observation; and, in the second place, those who claim to have dissected snakes which have been seen to swallow their young, seldom know how to distinguish between the œsophagus and the oviduct. The presence of live young snakes in the latter would prove nothing, for that would be the natural place to expect to find unborn snakelets; their presence in the former would be

difficult to reconcile with the action of the gastric juice.

Dr. George Harley has come nearest to an authoritative pronouncement on the puzzle. In a letter to the *Field*, March 9, 1895, he described how he dissected on the spot a viper which had been seen to admit its young into its mouth, and had been killed immediately. He found the young in the body of the parent, sure enough, but neither in the stomach nor in the oviduct. It was not till he was dissecting a puff-adder in 1863 that he discovered a sac, situated under the lungs, but nearer the tail, into which he concluded the young might be received and supplied with the air necessary for their existence, thus forming a provision somewhat analogous to the pouch in marsupials. There are only two unsatisfactory points about this statement by a man of science; unfortunately, they are destructive of its value. The first is that the dissection took place thirty-eight years ago—in 1837; the second, that the viper was thrown away after dissection.

It is ever thus with these wonderful stories. They are not a bit more surprising than many facts perfectly capable of demonstration; the extraordinary part about them is that they refuse persistently to

be demonstrated. Till they are demonstrated, one should not hesitate to refuse credence to them, which is a very different thing from declaring them to be impossible.

XXXVII

The Divining Rod

Another meet subject for ἐποχή, or philosophic suspension of judgment, is the claim of certain persons to the power of the divining rod. It is not necessary—indeed, it would be the reverse of philosophic—to deny the possibility of such a faculty, belief in which is so venerable and so widespread. But it is reasonable —nay, it is the only course consistent with reason— to refuse to believe in its existence until it has been submitted to proper tests. This has never been done, though I was present some years ago at an elaborate attempt to do so. The facts were as follows:—

Lord Jersey had employed Mullins, the celebrated water-finder,[1] to discover springs on his property at Middleton, in Oxfordshire, and had been not only gratified, but astonished at his success. I ventured, without questioning Mullins' undoubted skill and

[1] Mullins died in the winter of 1894-5.

usefulness, to express some doubt as to the part played by the divining rod. It seemed so much easier to credit the man with experience and quick powers of observation, enabling him to detect the presence of subterranean springs by means of signs invisible to less practised eyes. That Mullins was an expert was beyond doubt: dozens of people had reason to be grateful to him for finding water for them after all other means had failed. The only question was whether he was not a bit of a humbug also. It was determined to invite him to submit to certain simple tests. He accepted Lord Jersey's invitation to examine the ground at Osterley Park, near Isleworth, in the presence of certain persons accustomed to scientific inquiry. Now in describing what took place, there is no intention of reflecting unfairly on Mullins' proceedings, or of imputing to him any intentional dishonesty. There may have been a degree of suspicion in the minds of some of those present; probably there was; but Mullins got perfectly fair play, and people must be left to draw their own conclusions from an accurate report of the proceedings and their result in the only serious attempt on record to test the virtues of the divining rod.

Mullins arrived at Osterley in the forenoon. He was at perfect liberty to go about and inspect the field of operations, and I think I remember being told he had done so. After luncheon he presented himself to the visitors and set to work. Sir James Crighton-Brown took command of the inspecting staff. Mullins, having a supply of light, forked hazel rods, rather thicker than an ordinary drawing pencil, and about a foot or fifteen inches long, seized one of them with a prong in each hand, and began to move about with the point of the rod about a foot above the surface of the ground. At two places on the gravel sweep in front of the house the rod turned up, Mullins stopped, and told us that a spring would be found at those points. The same happened at more than one place in the park, where the surface was grassy. He showed us how the rod twisted so violently that, when he held it tight, it broke in his hand. Asked what his sensations were, he replied that when the rod turned up he felt a 'kind of a shivering' passing upwards along his spine. He stood on a plate of thick glass, and explained to us that the rod then gave no sign, which, in his view, showed that the influence was electricity. Sir James then proposed that Mullins should go through his

performance blindfold, to which the operator made no objection. A large handkerchief was tied over his eyes, and he made ready to begin again.

'I don't call that blindfolding at all!' cried Sir James, and produced some cotton wool, which he proposed to stuff under the handkerchief; upon which Mullins tore off the handkerchief, vowed that he had practised his profession for thirty years without once having had his honesty called in question, and would not submit to have it doubted now.

'Don't you believe my word?' said he.

'I believe nothing but what I see!' returned Sir James,—a sentiment which, though it precisely defined the proper mental attitude of a scientific critic, brought the séance to an abrupt conclusion; for Mullins, so deeply wounded in his self-respect, refused to undertake any further experiments.

The question, therefore, so far as we were concerned, remained exactly where it was when we took it up; that is—I don't believe in the divining rod, but I don't deny that its virtues are genuine; and were I in straits to find water, I should employ without hesitation a professional water-finder—rod and all—if there remains one so successful as Mullins was.

XXXVIII

To return for a moment to the subject of snakes—it is well known that their poison is rendered more potent by hot weather. The only instance of fatal results from the bite of an adder which has ever come under my notice happened after three weeks of intense heat in July 1876. Four Scottish Militia regiments were brigaded in camp at Holmwood, near Dorking, during the summer manœuvres. A bicyclist, who had come down from London to see the troops, was bitten by an adder in the heather, and died in a few hours.

Adders

Even adders are not without their services to man. During the great plague of field-voles in Scotland in 1891-2, the only adder I happened to see killed had a full-sized vole in its gullet.

XXXIX

Few of us make enough of our gardens in spring. We have trained our gardeners to conform to the vicious habit which draws people to the town during the first acts of Nature's annual opera, and to concentrate all their skill and ingenuity on a display of colour in autumn. Every-

Spring Flowers

body admits that spring flowers are the sweetest, the purest, and the prettiest, but it is a rare thing to see much trouble bestowed upon them. But a visit during this month to Mr. George Wilson's garden at Wisley, near Weybridge, would open most people's eyes to the brilliant effect that these can be made to produce.

A garden in the strict sense it can scarcely be termed; rather it is a *champfleuri*—a field of flowers. It is a piece of land wherein an owner, being as much botanist as gardener, has collected from all parts of the world the fairest flowers that are patient of our climate, there to test, to multiply, and display them. The ground chosen, some nine acres in extent, includes a hillside, an oakwood at the foot, and a couple of level fields beyond. Water-loving plants have been accommodated by the excavation of two or three ponds in the gravel, and in this month the surface of one of these is closely studded with white blossoms of the Cape pondweed (*Aponogeton distachyon*), and the air is loaded with their perfume of mingled hawthorn and bitter almonds. But it is in the wood that, at this season, the choicest flowers are to be found; charming surprises abound there at every turn of

the narrow tracks; for there delicate petals may expand without risk of searing wind, and the sunshine is filtered gently through the bare oak boughs. There are glades of narcissus, not only the common English daffodil, dear to Herrick and Wordsworth (than which none can be more perfect), but also the many forms into which it has sported, as well as distinct species, such as *bicolor*, with golden tube and broad creamy sepals, and its grander variety, *Horsfieldii*; pallid, nodding *cernuus*; graceful *incomparabilis* in many shades, and its double form, 'butter-and-eggs'; the quaint *bulbocodium*, or hoop petticoat, golden or primrose-hued; the delicate *cyclamineus*, with sepals smartly reflexed; and, rarest of all, the tiny *minimus*, 'whose nose,' saith Parkinson, 'doth mostly rest upon the ground.' All these gain a degree of grace in this woodland, which those who have seen them only in formal borders can scarcely realise.

Then there are sheets of anemones—not only our native wood species, with white or flushed flowers, but its near relative, equally hardy and profuse in bloom, the skyblue *appenina*, and *Robinsoni* with bronzy foliage and petals of delicate lavender hue. In sunny spots the intensely scarlet *Anemone fulgens*

is as much at home as in any oliveyard on the Mediterranean; and, most remarkable of all, a variety of our native Pasque flower, *A. pulsatilla patens*, with long silky hairs on its leaves and bracts, giving it a strange old-world look.

Advantage has been taken of every ditch in the wood—ditches! they are but woodland gutters—and thousands of squills, hepaticas, hellebores, saxifrages, grape-hyacinths, and primroses gleam among the withered leaves like living jewellery. In making mention of the last, the Wonder of Wisley is touched on; for here are not merely

> 'pale primroses
> That die unmarried ere they can behold
> Bright Phœbus in his strength,'

but primroses of hues never before beheld in that modest flower. Blue roses, the type of unpractical quest, have yet to be disclosed; but by sedulous selection of seed-parents, Mr. Wilson has succeeded in producing lusty clumps of primroses bearing flowers, not only of cramoisie, cinnabar red, and royal purple, but of veritable blue. When, a few years ago, these flowers were first exhibited at the Royal Horticultural Show, the Committee looked askance on them; the plants, they suspected, had

been doctored with mineral solution; but inquiry only proved that the strain was really and incorrigibly blue.

One question must occur to everybody who visits this wilderness—How comes it, seeing there is such abundant variety to choose from, that most gardens and shrubberies present such monotony in their furnishing? Here is one plant, for instance, *Daphne Blagayana*, covered with ivory-white rosettes of exquisite fragrance, evergreen, shapely, and withal as hardy as a box-bush, which one would expect to be a general favourite, yet you shall look for it in vain in ninety-nine hundred gardens out of a thousand. How many ladies who really take pains about their borders are acquainted with the lovely little ground-laurel (*Epigæa repens*), the chosen badge of Nova Scotia, or the quaint, oak-leaved avens (*Dryas octopetala*), sheeting the banks with dark-green foliage and gay white flowers? The Canadian 'puccoon' or blood-root (*Sanguinaria canadensis*) far exceeds the snowdrop in lustrous white, and is quite as easily naturalised; while for matchless blue consider the Himalayan *Tecophilæa cyanocrocus*.

XL

Barbarous plant names

It is impossible for any sober citizen to write or read about gardening without breaking his shins over the preposterous polysyllables in use to designate those plants which have not acquired popular English names. Generic and specific terms are necessary, of course, for scientific classification; and Latin, even as pronounced in this, as in no other land, is unrivalled as a medium combining elegance and precision. But it is time to enter a mild protest against the intemperate use by botanists of the speech of Imperial Rome. The difficulty of ticketing with distinctive names the ever-increasing horde of herbs must be enormous; still, that is no reason for ignoring the beauty of the language and obscuring its succinct precision. An old Scotch gardener once confessed to the difficulty which this nomenclature added to his vocation. Asked whether he did not find it hard to teach his apprentices the long learned names:—'I do that,' replied he; 'and—fac'—I couldna teach them ava' withoot my *memoria technica*.' Asked further to give an example of that: 'Weel,' said he, 'see there; yon's what they ca' a *Cryptomeria japonica*; "Noo,"

says I to the lads, "when ye want to mind the name o' yon tree, just think o' Creep-to-the-mear-and-jump-onto-her."'

Even this worthy's system would have been sorely taxed in respect of a beautiful but unfortunate lily which was exhibited at a London show some years ago, suffering from the pundits as wofully as Susannah did at the hands of her elders; for there was bound to her feet the excruciating title — *Lilium umbellatum Thunbergianum bulbiferum nigro-maculatum.* Compare with this mouthing the scholarly simplicity of Linnæus, who, having to fix a scientific title for the English oak, dubbed it once and for ever *Quercus robur* — oak of oaks. On the other hand, when he presumed to attach a personal name to a plant, he sought out a simple little trailing herb—a solitary species, native of his own northern woods—and wedded his own to it for ever—*Linnæa borealis.* It became his lasting cognisance, and inseparably associated with his touching motto, *Tantus amor florum*—so deep is my passion for flowers.

What is required of floral nomenclature is not that it should commemorate some defunct, inglorious biped (for there arise not many Linnæus in an æon),

nor yet that it should serve merely to mark the labels in a herbarium. The titles should express the origin, chief qualities, or points of difference of genera and species, with all the precision and melody of the Latin tongue. Take the beautiful family of Iris as an instance: the two native species are satisfactorily named the common yellow flag, being known as *Iris pseudacorus*, that is, the flag-like iris; and the gladdon or wood iris as *Iris fœtidissima*—the stinking iris, a title fairly earned by the evil odour of the leaves. But when I take up a list of new species of Iris from the East, the first to catch the eye is one described as having 'long grassy foliage and pale sulphur flowers,' surely hardly sufficient reason for naming it *Iris Grant-Duffi*! To another species from the Holy Land has been assigned a title from a higher source than an ex-Governor of Madras, for it is prettily called *Iris Mariæ*; and a third, from the same country, seems to have been rescued from the terrible name of *Iris Bismarckiana*, for it is now to be distinguished as *Nazariensis*. That is fitting enough; but fresh horrors lie in wait over the page, for here is a lovely species 'with large, white flowers, and a beautiful butterfly-like blotch on the falls,' and what think

you the learned folk have invented for it? It has been christened *Iris Robinsoni*! These homely English patronymics offer a serious obstacle to those who love to commemorate their affection for the departed by flowers which return year by year. It must be seldom that a modern Bion shall find a Moschus to marshal sweet mourners at his bier—

> 'Ye flowers, sigh forth your odours with red buds;
> Flush deep, ye roses and anemones;
> And more than ever now, O hyacinth, show
> Your written sorrows—the sweet singer's dead.'

To find one of the congeners of Robinson we need only turn to the list of lilies; and who the deuce was Brown? we murmur pettishly, that he should make a godchild of the noble *Lilium Browni*, with its purple trumpets, lined with white satin. Lilies on the whole have fared better than other plants when names were served out; for here are *tigrinum* and *pardalinum*, the tiger and leopard lilies, in gorgeous livery of orange and sable. Yet a recent importation from Mexico, described as 'one of the most beautiful of all,' has to carry a barbarous barrow-load of polysyllables—*Lilium Bloomerianum magnificum*.

Daffodils (let alone the florist's varieties) come fairly well out of it. *Narcissus bicolor*, *odorus*, *jonquilla*, were so called of old, in the good days of Gerarde and Parkinson, and their names mingle prettily with memories of March winds and suns. *Poeticus*, too, the exquisite pheasant-eye narcissus, latest to flower, brings to mind the deep orchard grass of May, when the apple-trees shed their bloom. But who shall explain the fitness of associating the eucharis-flowered daffodil with a smoky town, or even with the Duke of that ilk, by naming it *Narcissus Leedsi*?

Is it not mischievous that anybody should have been allowed to fix on a delicate lavender crocus the stigma of *Crocus Thomassi*? Such a barbarous name never came out of the same satchel as the Greek one of *Chionodoxa*—winter grace—for an early flowering bulb with thyrses of porcelain blue, or *Amaryllis belladonna* for the wayward Jersey lily. But the witless loons have tainted this list also; for here behold a newer kind advertised as *Amaryllis Johnsoni*—a name recalling the fact that, in all his writings and recorded sayings, Dr. Johnson hardly makes the most transient allusion to flowers of any kind.

The name of Hooker has been so conspicuous for two generations in plant lore, that it were ungenerous to carp at its frequent use as a specific title. Unluckily, it is not musical, and the handsome yellow African lily-wort suffers under the uncouth designation *Chrysobactron Hookeri.*

Descriptive plant-names are sometimes very happy. Information could hardly be more concisely conveyed than by such a name as *Dictamnus fraxinella*, the ash-leaved dittany. *Gladiolus* (glădĭŏlus, ma'am, not glădīŏlus, as some use, nor glădĭōlus, as others) is perfect—the little sword-bearer; it exactly describes the foliage. But what sense can man discern in the name given to a nearly allied lily-wort—*Watsonia*? Commemorative names are seldom pleasant to use till all has been forgotten about those whom they commemorate, as *Fuchsia* and *Dahlia*; though exception may be made for the pardonable fervour which, while it inspired our countrymen to name the greatest of conifers *Wellingtonia*, has induced American botanists to class it as *Washingtonia.* But, after all, the best names, even for scientific precision, are those invented by the poets, as *Anemone*, the wind-flower, *Agapanthus*, the love-blossom, and the like.

With the fleeting names that gardeners choose to give florist's flowers there is no cause for quarrel. These may be dismissed as lightly as flowers of this sort were dismissed by Perdita :—

> 'Carnations and streaked gilliflowers,
> Which some call nature's bastards ; of that kind
> Our rustick garden's barren, and I care not
> To get slips of them . . . . .
> . . . . I'll not put
> The dibble in the earth to set one slip of them ;
> No more than, were I painted, I would wish
> This youth should say 'twere well ; and only therefore
> Desire to breed by me.'

It matters not though a rose should come to be named *Dr. Tanner*, or a pæony *Tim Healy*, even as a rhododendron has already been ticketed *W. E. Gladstone*.

Yet there lies a fine old-world light upon some names in the florist's catalogues, reflected from the days when men paid a knight's ransom for a single tulip bulb. Of such are *Grootvoorst*, *Pottebakker*, and *Keizerkroon*. One may even stomach *Apotheker Bogren*, whereby a handsome hellebore is distinguished. But the French are happiest in their florist's names. Among the white hyacinths are such pretty titles as *La Belle Blanchisseuse*, *La Pucelle*

d'Orléans, and *Paix de l'Europe*. The blue Hyacinth, *Lord Wellington*, must surely have been christened in France, in hopes of attracting English customers; but a certain deep red one rejoices in two names, one—*Waterloo*—bestowed by the vengeful Teuton, the other (for the French market)—*Bouquet tendre*. Among the tulips poetic sensibility may be traced in *Mariage de ma fille*, *Belle Alliance*, and *Roi cramoisi*; while our people limp along with *Purple Crown* and *Yellow Prince*.

May

XLI

The Prudent Ash

Of all the trees in the wood, none is so prudent as the ash; none that stays itself against the storm with such far-reaching roots, or probes such distant soil for nourishment; none that, in the vital matter of putting forth leaves, is so fearful of encountering a backward blast of winter. Tennyson taunted this tree for its laggardliness: 'Why lingereth she——' the beautiful passage is already threadbare; and each spring one yields to fresh impatience when the woodland is all in new green, save for the frosty ash-boughs.

Yet there is often seasonable reminder that nine-tenths of our park trees are foreigners, too easily lured into leaf by treacherous 'bask' days in March and tepid April showers; not seldom have limes and horse-chestnuts to pay for their temerity in foliage bruised and blackened by the broken promise

of May. The birch, indeed, is as early as these, and escapes damage in virtue of wiry sprays and small leaves; but woe to the broad-leafed exotic that puts faith in the tricksome north-country spring! Herein is shown the wise constancy of the ash and oak, which, with the wych-elm, the aspen, and the Scots fir, made up the staple of the primitive British forest.

It is the ash which, more than any other tree, distinguishes the landscape of the northern half of this island from that of the southern. Somewhere within the confines of Staffordshire, one travelling on the London and North-Western line passes out of the zone of oak and elm into that of ash and sycamore. In place of the heavy-headed elms (like the sycamore, an importation in Roman times) that cluster round homesteads of the Midlands, the northern garths are circled round by ash-trees, melancholy enough at this present time of writing; but so soon as the gates of the east wind shall be shut till another spring, to be clothed upon with such gracious foliage as to justify the meed given by Virgil to this above other trees.[1]

Never in the history of Scottish seasons was there

[1] *Fraxinus in sylvis pulcherrima.*

more signal example of the merit of late leafing as in that of 1894. There was much heat at Eastertide. Grass shot up ankle deep in sheltered leas; hawthorn hedges decked themselves with green lace; and precious finery of all kinds was flaunted in garden and shrubbery. Yet among all this rush of verdure, the grey ash-trees and the brown heather alone made no sign: schooled to useful patience by immemorial experience of northern springs, their stirring sap gave no outward token of life.

And now, to-day, this 22nd of May, may be seen the right reason for their backwardness. The strong north wind—the very breath, as it were, of a vast ice-field—which, for a week past, has been rattling at our casements, fell to rest last night; and the mercury fell also to 10 degrees Fahrenheit. Twenty-two degrees of frost on the twenty-second day of May! The ruin has been heartrending; even hardy beech and hawthorn have been seared as by a flame.

XLII

Westland May

There is not much temptation to go out among this wreck of fair things; but the Whitsun short holidays end to-morrow, and no precious fragment of them must be squandered

within houses built with hands. This is only make-believe winter after all; there must be places where the cold cannot come. Clearly, the best of these will be one of those narrow, deep glens—they would be called combes in the south country—which seam the coast of Galloway throughout its many windings. There is one such glen close at hand—Physgil Glen, they call it; what wind there is blows off the land; so there, if anywhere, may foretaste of summer be had.

The glen is thickly wooded—with ash, it is true, so there is no leaf-canopy now; but beneath the grey stems the steep banks and the level spots beside the burn are covered with a dense tapestry of wood-hyacinths. Do not call them bluebells, dear Miss Sassenach! Our country-people call them, unmusically, 'craw-taes'; but, as all the world ought to know, though it does not, the 'bluebells of Scotland' are not these, but the summer flowers which you choose to call harebells. Hyacinths, then, in sheets and streaks, in clumps and scatterment, of soft, exquisite blue, with just enough heads of pure white among them to make one grateful that these are the exception, else would there be lost one of the most lavish displays of rare colour that Nature

ever allows herself. It is a scene never to be forgotten—those fairy banks, enamelled with acres of azure among the grey ash-stems, with bright green fern-fronds springing, and dog's mercury of more sober tone. And, lo! to add the last touch of enchantment, the clouds roll aside, and the sun pours down his splendour through the tracery of green boughs overhead. It makes one long to bring a shoal of city school children here, and turn them adrift among the flowers.

Towards the sea, the trees shrink in stature, till, on the outmost verge of the wood, they are queer pigmies, no higher than the enclosing dyke of grey stone. Every leaf and twig that pushes higher is shorn off by the salt sea wind. Beyond the wood the glen sinks deeper, with steeper sides, and the floral decoration changes. There are still patches of blue hyacinths here and there under the lee of blackthorn brake and whins, but the knolls are spread with the lighter, greyer blue of the starry vernal squill—a relative of the hyacinth, but of humbler growth and much more rare. The blackthorn is out of flower, and the fire of the gorse-bloom is sinking into embers, but each stunted hawthorn is breaking into creamy spray, and far and

wide, high and low, thousands of pale primroses bespangle the turf. On lower banks, near the stream, the clusters grow thicker, till, in yielding place to the golden marsh marigolds, they strike the harmony of sulphur and orange, so dear to the dead Albert Moore. There is another and purer yellow on the heights, a middle hue between primrose and marigold, the pretty rock-rose (*Helianthemum*), wreathed among masses of the snowy bladder campion, and, thinly scattered over all, there stand little pillars of brilliant purplish crimson—the early orchis. Just where the green turf carpet ends on the beach, between it and the broad expanse of cold shingle, all these hues meet and mingle, and there is added a wide selvage of a colour gayer than all the rest, the dainty rose-pink of the sea-thrift. To sit on the thyme-scented cliff before the quiet sea, to bask in the afternoon rays and drink in this oratorio of colour, is a joy to be had in everlasting remembrance.

And when that is done, there be other things to note in this quiet bay. It is just such a beach as this that the Vikings loved to draw their long black *kyuls* upon. The very name of the place—Physgil—is our tortured writing of the Norse *fisk-gil*, fish

stream; and on an eminence commanding the landing-place moulder the ruins of Port Castle, one of the innumerable strongholds with which these cruel scourges of the ninth and tenth centuries studded our shores, for the better subduing of the native Picts.

But memories of a still earlier age hang round this spot. On either hand the bay is closed in by lofty cliffs. In the more northerly of these is a celebrated cave, which, ever since the fourth century of our era, has borne the name of Ninian, who first preached the gospel of the 'White Christ' to the wild Picts of Galloway. All through the subsequent interval of paganism, and, stranger still, in spite of the harsh repudiation of sacred legends and rites by the Scottish Reformers, the Saint's name has clung to this rift in the rocks, whither, in pious imitation of his famous patron, St. Martin of Tours, he was wont to retire for seasons of fasting and prayer. A few years ago some diligent local antiquaries, having cleared the cavern of hundreds of tons of *debris*, brought to light many carved crosses, inscriptions, and other objects corroborating the legend.

There is a wide view seaward. The wavy outline

of the Isle of Man fills the horizon towards the south; opposite, in the west, the long, lean finger of the Mull of Galloway, southmost point of Scotland, lies along the sea; and, farther off and to the south, Ireland may be made out, if not elsewhere, at least in Slieve Donard, highest of the mountains of Mourne. But the clouds are heaped heaviest over that land.

XLIII

A Hampshire Trout Stream

How often one is tempted to echo Horace Walpole's purposely peevish snarl about English weather. 'Every year,' he wrote to Mason, 'we give ourselves airs of being disappointed, though it is so very seldom we have any fine weather. I believe, if we did not read Virgil at school, we should never have invented names for the seasons.'

Of all the myriad poets of spring, none has ever given its character in these islands so faithfully as Arthur Clough in the lines beginning—

'Put forth thy leaf, thou lofty plane.'

One should make a point of reading them every year on May Day, so as to understand and enjoy

the design of the season; but it is a salutary rule to abstain from quotation, especially just now, when every living creature is astir, and far too busy to listen to one.

This is another month of May from the one I have just been prosing about; a year later—1895—and with the fearful experience of last winter behind us. Spring has come at last, backward, it is true, but already lavish in beauty of leaf and flower. The grass in meadows beside this Hampshire stream is not more than ankle-deep yet, but it is already embroidered with royal gold of kingcups and wan lavender of lady's smock. It is interesting to analyse the components of the rich green tapestry of the river banks. It is not all grass that serves for the general ground of malachite, which would be *criard* were it not shot with myrtle green of marigold leaves and olive green of creeping jenny, *pointillé* (as heralds would say) with pink buds of marsh valerian, shadowed with rush clumps of rifle-green, and variegated with the brown flowering spikes of sedge. When the herbage grows taller all this is changed; the effect remains soft and satisfying, but nothing equals in richness the pile of this spring carpet.

What abundant life there is in this meadow beside the lucid Itchen! Most living things in the water and on the land are making honeymoon; only the trout, cold-blooded creatures, having transacted matrimony during the long winter nights, are free to cruise about with no more sentimental aim than to fill their stomachs! Dabchicks, coots, water-hens, wild-ducks, and water-rats are intent on far more tender cares. A pair of great spotted woodpeckers are enlarging the premises they occupied last year in the dead branch of a poplar. On the trellised wall of the fishing-cottage a pair of chaffinches are putting the finishing touches to their new nest, a masterpiece of art tapestry. It is within a few feet of the old one, which, after the young brood fledged out of it last June, a pair of spotted flycatchers faked up into a receptacle for their eggs. These, being among the latest of our summer migrants to arrive, have not much time to spend on the niceties of architec ture, and often are content to use second-hand furniture.

XLIV

Pike and Black Bass

This is a favourable time for noosing basking pike out of the backwaters of our trout-stream, and the miller is a great adept at this game. It is really a very delicate art, especially when the fish are small. Eighteen baby jack taken with fine wire one morning near Itchen Abbas weighed no more than nineteen ounces. I have never seen a trout caught by this means, and I believe it to be hardly possible to do so.

It has never been decided, I believe, whether the too common pike is an indigenous fish in British waters, or whether it has been introduced artificially. Probably it is a native, but its unwelcome presence in many lakes and streams is certainly owing to its cultivation in monkish times. Its fecundity and rapid growth made the pike valuable in providing a steady supply of fish for Fridays and other fasts; but, all assertion to the contrary notwithstanding, it affords unpalatable, or at best, insipid food. Colonel Thornton, whose amusing *Sporting Tour* formed the subject of one of Sir Walter (or as he then was—Mr. Walter) Scott's earliest and most scathing con-

tributions to the *Edinburgh Review*, wrote enthusiastically of the excellence of Highland pike on the table; but the utmost that ordinary culinary cunning can do is to make this fish a neutral vehicle for savoury stuffing and toothsome sauce. The injury done to trout waters in all parts of this kingdom by the presence of this pirate is incalculable. Once let it get entry to any water, and the pest is ineradicable. You may run your lake dry and leave it so for a year; let there be but a puddle left a couple of inches deep, or a reedy ditch communicating with the lake—in these will pikelets harbour, and, as soon as the water is restored, begin reproduction with malignant diligence.

It has been long the dream of anglers to find some fish able to swim with the pike on equal terms, but of higher gastronomic quality, and affording more exciting sport. It is true that many people delight in pulling out pike, and in southern waters they become almost as wary as trout, and take a lot of catching. But it is dispiriting to basket fish that no one will thank you for bringing home. Gimp, too, is essential, for the pike's teeth are fatal even to the strongest salmon gut; and the chivalry of the struggle is all on one side when the angler knows

that he may haul on his tackle as hard as he likes without risk of fracture.

The accounts brought to this country of sport with black bass in North American waters prompted the experiment of naturalising them on this side of the Atlantic. They are fish of the perch tribe, armed with the characteristic spiny dorsal fin, exceedingly active and voracious, and producing flesh said to resemble that of the haddock. They are more powerful and grow far larger than our perch, which is the only British fish able to live on nearly equal terms in enclosed waters with pike; and, as a sporting fish, the black bass is said to be no whit inferior to trout, though accounts differ as to their readiness to rise at the fly. Most of those taken, it is believed, come at a spinning bait.

Black bass have been established for some years at Lord Exeter's ponds at Burghley, and in 1892 it was decided to introduce them into Scottish waters. In the spring of that year a pond about one hundred and fifty yards long was cleaned out for their reception and left dry during the summer. The bottom was well limed to destroy, as far as possible, every vestige of eels and other fish, and the water was run back in September. In November a consignment of

THE HOME OF THE BLACK BASS.

one hundred yearling bass was received from Germany, where these fish are artificially reared. They measured from three to four inches long, and only one out of the hundred had died on the long journey.

The pond was drawn in April 1895. The net was not satisfactory; it had no bottom leads and no end poles, so the catching of fish was extremely problematical. The first haul produced nothing but two fine trout, which had no business to be there. They must have harboured as fry in the rivulet which feeds the pond, while the latter was dry, and must, therefore, have been the same age as the bass. The second haul was more successful. In spite of numerous entanglements with snags and stones, which deranged the net so that any fish of ordinary intelligence might have swum under it, six bass in lusty condition, with fine olive green backs and white bellies, were drawn ashore. They were not large—not of a size to be risked in the lake they are destined to populate, which swarms with pike. They weighed little more than half a pound a piece, or not more than half the weight of the trout, their equals in age. Still, there they were, having escaped all dangers from cormorants, herons, and, still more deadly, eels.

A year later, in April 1896, we drew the pond again, and this time many trout and seven bass were drawn to land. But it was disappointing to find that, while the trout averaged over a pound, the bass had not increased perceptibly in size since the previous year. However, they were transferred to the lake, to take their chance among the pike, where it is more than doubtful if they are ever heard of again. If once they could be established in the water, and if their reputation for voracity is well founded, they may be expected not only to hold their own with pike, but actually to diminish their numbers by devouring the fry. But it must be confessed that their rate of growth—half or three-quarters of a pound at five years old—is very disappointing.

The annexed plate is reproduced from a painting by Pollard, showing how our forefathers went about the capture of pike in the good old leisurely time. There is a vast deal of unconscious humour in the scene: the elaborate paraphernalia, including a stool for the angler to sit on, the enormous rods, the baskets, bags, and bait-cans, above all, the chimney-pot hats, chokers, and cut-throat collars, seem ludicrously out of proportion to the undersized jack

TROLLING FOR PIKE.

which the principal sportsman is towing within reach of the powerful gaff. In those days, the ceremonial costume which modern practice only insists on for the hunting field, was looked on as indispensable to all field sports; peradventure some of us may live to hear young men laughing at the unwritten law which, in the nineteenth century, enforced the wearing of white breeches and tall hats by all who would worthily pursue the fox.

XLV

Old English Flower Names

Not many years ago, May was the most flowerless of all the months of spring or summer in English country-house gardens, until a happy caprice once more brought into favour the plants with which our forefathers were content to deck their parterres. The borders which, under the 'bedding-out' system, lay bare all winter and spring, waiting till the temperature permitted the tender plants to be put in the ground, are now allowed to bear the full procession of the sweetest flowers of the season, and great is the gain in variety and interest. There is good cause for throwing up of hats, or any other decorous act of jubilation, on

account of the disfavour which has fallen upon scarlet geraniums, yellow calceolarias, and blue lobelias. People tired of these, not because they lacked brilliancy or beauty, but because everybody had them, and because they only flowered for a few weeks in late summer and autumn, and left naked, brown beds for all our solace during the rest of the year. 'La vertu est une triste chose, car elle ne laisse point de souvenirs,' and so it was with bedding out. It may be that generations yet unborn may revert to it, and prize it for its associations with the Victorian age, hallowed by memories of the introduction of battues, crinolines, croquet, *dîners à la Russe*, and other cherished institutions. Meanwhile, we part from it without a sigh; our only wish is that it would disappear a little faster.

It was only a few weeks ago that I stood, for the first time, on a lovely spring morning, in the celebrated Italian garden of Diane de Poitiers at Chénonceaux. Never was there a more dreary rectangle! So far from being a place of flowers, it seemed to be a space from which every blossoming thing had been laboriously expunged. True, that in a couple of months there would be a fine blaze of red, blue, and yellow; but what memories could that fleeting dis-

play waken of the sweet, naughty ladies who paced here in the days of Brantôme and Ronsard? Whereas one great charm of the old class of 'herbaceous stuff,' as gardeners contemptuously called it but a few summers ago, lies in their permanence. Many are not only technically perennial, in the sense of not having to be resown annually, but seem even to have the property of perpetual youth. In many an old English garden there are vigorous clumps of scarlet lychnis or fragrant dittany coeval with mighty oaks in the park outside; and a girl may gather a posy to-day from the selfsame tuft on which another of her kin dropped tears as she thought of lover or husband riding with Falkland at Newbury or Rupert at Marston Moor.

But another secret of our affection for old-fashioned flowers is contained in their old-fashioned names, of which some are no more than homely, but others are full of tender or plaintive meaning. Some flowers have titles of both qualities; that, for instance, now known to everybody as forget-me-not, though Gerarde and the old herbalists called it scorpion-grass, because in its spike of unopened buds could be traced a resemblance to a scorpion's tail. This was quite enough, according to the doctrine of signa-

tures, to ensure its prescription as a remedy for the bite of a scorpion. Gerarde was far too good a man of science to indorse the empirics, though he always quotes their writings, and leaves his readers to form their own opinion on the credibility of them. In this instance he cites Dioscorides, 'that the leaues of Scorpion grass applyed to the place, are a present remedy against the stinging of Scorpions: and likewise boyled in wine and drunke, preuaile against the said bitings, as also of addars, snakes, and such venomous beasts.' Should any of my readers unluckily be bitten by a scorpion, and this remedy either fail or not be at hand, he may fall back on that prescribed by Jonston in his *History of the Wonderful Things in Nature*, written a century later than Gerarde's *Herball*, which is just as likely to prove efficacious: namely—'if he (the person bitten) sit upon an Asse with his face toward the tayl, the Asse will endure the pain and not he.'

Another old name for the scorpion grass, with its 'floures of a light blew or watchet colour, with a spot of yellow among the blew,' is mouse-ear, owing to the shape of its leaves, a fancy perpetuated in the scientific title—*Myosotis*. But the present popular name has not belonged to this pretty blue flower for

much more than half a century. Somewhere in the 'twenties a ballad was written connecting it with the story of a drowned lover; but up to that time forget-me-not had been the name of one of the bugles, which leaves a disagreeable bitter taste in the mouth when bitten.

No flower has a greater wealth of *alias* than the pansy. Oberon explains its colour:—

> 'Yet marked I where the dart of Cupid fell;
> It fell upon a little western flower,
> Before milk-white, now purple with love's wound,
> And maidens call it Love-in-idleness.'

Note, however, that this does not mean love in indolence; love-in-idleness, more commonly love-in-idle, means love-in-vain—hopeless love, as in the Pardoner's Tale:—

> 'The other heste of hym is this,
> Take not in ydel my name nor amys.'

Spenser calls this flower the pawnce, and Dr. Prior enumerates the following names for it—herb Trinity, three-faces-under-a-hood, fancy, flamy, kiss-me-ere-I-rise, jump-up-and-kiss-me, pink-of-my-John, and others such as fond lovers use. With all these to choose from, it seems rather unfair that this spoiled

darling should have been allowed to filch the name 'heartsease,' which the wallflower had already earned in virtue of its cordial properties, and imported into it some of that amatory allusion in which the profligate pansy is so deeply involved.

But from the earliest times lovers have been incorrigible in appropriating blossoms to their own purposes, though some of the resulting names have been the consequence of blunders. For instance, it is hardly likely that any swain would choose the coarse annual called love-lies-bleeding to express his pain; there has been some confusion here between the classical *amaranthus* and *amor*. So also the *Solanum lycopersicum*, named *pomi dei Mori* or Saracen apples by Italian gardeners, was glossed *pommes d'amour* by the French, and love-apples by our own people, till these borrowed the American name 'tomato.' The straggling goose-grass, too, clinging with its myriad burrs to the coats of men, derives its popular name, loveman, from that habit, and not from any amatory suggestion.

School Boards and other engines of mealy-mouthedness have laid their ban on many venerable plant-names, and it must be owned that the true meaning of wake-robin and cuckoo-pint is best exchanged for

the general suggestion of vernal growth with which they invest the common hedge arum. The spotted orchis—

> 'long purples,
> That liberal shepherds give a grosser name,
> But our cold maids do dead men's fingers call them'—

seems to have lost all but the last of these titles; and it is not difficult to foresee that before long the finger of the Inquisition will be laid upon the common name of the meadow saffron, called 'naked ladies,' when its pink flowers rise shivering without leaves from the mould in autumn days. But never let 'our cold maids' blush to welcome *Cardamine pratense* as Lady's-smock; for the reference herein, and in other names such as the Lady's-mantle (Swedish 'Mariekápa'), is to 'Our Lady.'

Names designed for one plant often get transferred to another. Thus woodbine and honeysuckle are modern synonyms for the same climber; but Parkinson, no mean authority, spoke of red clover as honeysuckle, and in the *Midsummer Night's Dream* woodbine means the bittersweet or deadly nightshade:—

> 'So doth the woodbine the sweet honeysuckle
> Gently entwist.'

The older name for this poisonous plant is 'dwale,'

which is still in use in Devonshire. I have heard it maintained that eglantine was a name for honeysuckle, but this is to forget its etymology—the *aiglante* or prickly one—the sweetbriar. There is another flower which has two names so equal in merit that one hesitates which to use—London pride or none-so-pretty (*Saxifraga umbrosa*).

Fair-maids-of-France is a title all too sweet for the double buttercup, to which usage assigns it—a plant not worth cultivating, save for its poetic name ; but its white counterpart—bachelor's buttons—is well called, according to Gerarde, 'from their similitude to the jagged cloathe buttons, antiently worn in this kingdom.' Sometimes, but rarely, the more recent name for a flower is the more poetical. Cowslip is a distinct improvement upon 'paigle,' the old English name, though it is well not to inquire too closely into the etymology of cowslip as given in Skeat's dictionary.

Much has been written on the question of what is the true gilliflower. No doubt Chaucer, Spenser, and Shakespeare meant thereby the clove carnation ;[1] but later writers applied the name to the wallflower

[1] Girofle, gilofre, or gilliflower—a corruption of *caryophyllum*, a clove.

and stock. Another name for this flower was sops-in-wine—

> 'Many a clove gilofre
> And notemuge to put in ale,
> Whether it be moist or stale.'

Gerarde observes that 'the conserue made of the floures of the Cloue Gillofloure and sugar, is exceedingly cordiall, and wonderfully aboue measure doth comfort the heart, being eaten now and then.' Why does not some enterprising housewife revive this forgotten dainty?

There has been controversy, too, over the identity of Homer's asphodel. It was probably a kind of narcissus, and the name survives in our 'daffodil,' through the old French *fleur d'asphodille*; but Lucian and later writers assigned it to a plant with an edible root, classed by Linnæus as *Asphodelus*. Another kind of narcissus (*N. incomparabilis*) is well named nonpareil, though the fragrant double form thereof has fared less felicitously as butter-and-eggs.

Talking of edible roots, notice may be made of a comical blunder fallen into by the early translators of the Old Testament. We read in 2 Kings vi. 25 that, during the siege of Samaria in the reign of Ahab, the famine was so terrible that the fourth

part of a cab of dove's dung was sold for five shekels; that is, about half a pint for twelve shillings. This statement greatly perplexed the erudite Cruden in the preparation of his Concordance; for it is clear that no amount of that unsavoury material could be of the slightest use, even to starving people. The Rabbins, he says, explained that it was not the droppings of pigeons that sold at this exorbitant rate, but the corn which the birds brought back in their crops from the country; but it does not seem to have struck these commentators that the birds themselves would have been far more valuable as food than the grain in their crops. The probable explanation is that the reference is to the roots of the *Ornithogalum* (*ornithogalé* of Pliny)—either the star-of-Bethlehem (*O. umbellatum*) or the Arabian ornithogalum (*O. arabicum*), both of which sheet the plains with white blossoms in spring, suggesting the homely similitude of the droppings of birds. No doubt, half a pint of the nutritious bulbs of this plant would be well worth the price quoted, under the stress of famine.

Herbalists, in preparing simples, have made themselves responsible for as many flower-names as lovers have done in preparing posies. Eyebright, feverfew,

fleabane, are thoroughly good names, and so is tutsan, that is, *tout-sain*, the countryman's name for St. John's wort; for, as good Gerarde saith, 'the leves, floures, and seeds stamped and put in a glasse with oile olive, and set in the sunne for certain weekes, doth make an oile of the colour of blood, which is a most pretious remedy for deep wounds, and those that are thorow the body.' All-heal, or wound-wort, however, is another plant — *Stachys palustris* — useful for staunching bleeding.

But the doctrine of signatures, whereby the fancied resemblance of parts of plants to organs of the human body was held to indicate their power of healing such organs, produced some very ugly names. English names, as a rule, are preferable to scientific ones, but it is prettier to speak of the pretty spring flower as *Hepatica* than to translate the term into our English liverwort, both names arising from a fancied resemblance of its leaves to the human liver; and *Pulmonaria* is a nicer word than lungwort, conferred on a well-known borage-wort, because the leaves reminded curious persons of the human lung.

Yet there is an aroma about these old-world names

which is lost in the pedantic precision of Latin classification, though it is not everybody who thinks so. Not long ago an enthusiast was showing a sympathetic, but inexpert, friend the glories of his rock garden, and drew his attention to the trailing sprays of a pretty creeper. 'It is very like Creeping Jenny,' quoth the visitor. 'It *is* Creeping Jenny,' confessed the proprietor, 'but we don't call it so in botany. It is *Lysimachia nummularia aurea*.'

XLVI

Royal Oak Day

Board schools are too apt to replace ignorance with mere knowingness, instead of with knowledge, but some of our old rural traditions possess a vitality which, thus far, has enabled them to resist their influence. One of these is the observance of Royal Oak Day; one may yet see the oak-spray worn in the caps of ploughboys in many parts of England. In the Thames valley the custom, if not universal, is at least prevalent. I have not noticed it in Scotland, but I came across it some years ago very near the English border. I got into conversation with a hill farmer on the lonely

pass of Hardknot, midway between Kendal and Ravenglass. It happened to be a very early season, and I remarked on the abundance of grass on the hills.

'Ay,' replied the dalesman, 'there be plenty of grass, seeing this be but yack-bob day.'

I was puzzled, till I remembered it was May 29, and 'yack-bob' was Cumbrian for oak-apple.

XLVII

Hardknot Camp

The employment which detained me in this remote region for several days was a very interesting one. I was charged with the superintendence of a gang of workmen excavating the fine Roman camp at Hardknot, at the head of Esdale, in Cumberland. Esdale, or Eskdale, as it should be written, extends from the ancient Roman seaport of Ravenglass (now silted up) into the very heart of the lake district, and is full of remains of Roman occupation. At Ravenglass itself are the remains of a Roman villa, of which the walls are still eight or ten feet high, with the plaster quite fresh inside. There is also a fine camp, which has suffered much from agriculture and railway

works. This gives the name to Muncaster, from Saxon times the home of the Penningtons, and yielding in turn the title by which the head of that family, English of the English, was raised to the *Irish* peerage under one of the inscrutable rules of modern chivalry. Muncaster Castle itself stands on a steep bluff on the Esk, a mile or so above the old camp. It is impossible to guess how long it has endured as a stronghold; guarding, as it does, a ford in the estuary, it was, no doubt, occupied and fortified by native tribes long before the Roman occupation. The conquerors would not be slow to secure such an important position, and, in fact, the foundations of the feudal keep are of Roman work. During some alterations in the building a few years ago a fine gold coin of Theodosius the Great was discovered. The ancient tower still frowns across the ford it was built to defend, the central block of modern additions.[1]

[1] Over the lychgate of the old churchyard of Muncaster is graven the following mediæval inscription, which, seeing that it is in a dead language, perhaps may be committed without offence to the discreet obscurity of a footnote—

'Hic locus hic sacer est; hic nulli mingere fas est.'

The legend is paraphrased on the other side of the gate as follows:—

'This place, these walls and all around revere;
No ought unholy or unseemly here.'

To reach the head of Esdale the traveller may avail himself of a funny little railway, constructed some time ago for the use of some iron workings, which, happily for the beauty of the vale, have proved abortive. He will not fail to admire the Protean versatility of one of the Company's officials, who, leaving Ravenglass in the capacity of guard, jumps from his van on arriving at a station, becomes station-master, produces a key, unlocks the booking-office, and turns into booking-clerk. Then, metamorphosed into porter, he attends to the baggage of rare passengers, sounds his whistle, and—presto! is once more guard as the train moves off. But to arrive at Hardknot pleasantly, the tourist will do better to let himself be driven, or ride his bicycle, along the road which, following the brawling Esk, threading the oak copse, and, being indeed of greater excellence than many more frequented highways, is altogether a path of pleasantness. He may turn off near Randall Holm to inspect the Roman tile-works at the foot of Muncaster Fell; and then, pushing on to the farm of Butter-Eldkeld, about twelve miles from Ravenglass, he comes in full view of Sca Fell. At this point the road, hitherto thoroughly well behaved, in spite of occasional mildly subalpine

propensities, suddenly loses all self-respect, and flings itself in impossible gradients full on the face of Hardknot Pass. This was of old the pack-horse way between Kendal (Concangium of the Itinerary), the principal wool-market of the north-west, and Ravenglass, its principal seaport.

Guarding the highest point of the pass lies Hardknot Camp, on the bare flank of the fell, about four hundred feet above Butter-Eldkeld, and seven hundred above the sea. It is a Roman camp of orthodox design, consisting of a square enclosure measuring rather more than one hundred paces on the face, surrounded by a massive rampart of roughly hewn stone, and protected, save where the ground is precipitous, by a deep foss. The four gateways occupy their usual positions in the centre of each face; and these, as well as the massive towers at each angle of the camp, have been finished with coigns of red freestone. This freestone, which must have been sea-borne to Ravenglass, for the rock of the district is metamorphic Silurian with intrusive granite, unfortunately has been the cause of much damage to the buildings, which have been pillaged for generations for material to sharpen scythes.

Within the enclosure remain the ruined walls of

the prætorium and other extensive buildings, showing that Hardknot has been a stationary summer camp. Outside the camp, beside the prætorian gate, a small circular temple has been exposed by digging, as well as a tavern beside a well, where no doubt the thirsty legionaries diluted their rations of heady Gaulish wine. Excavation of the flanking towers produced several spear-heads, immense quantities of broken pottery, and a ring carved in intaglio. Altogether, Hardknot remains one of the best preserved Roman fortifications in Britain. It may have been garrisoned by a cohort of four hundred and twenty legionaries, besides which there was accommodation for about fifteen hundred native auxiliaries, brought there for the summer training.

Not the least interesting feature in connection with it is a *campus martius* higher up the mountain side. Here a space of about sixty acres has been cleared of stones, terraced and levelled, forming a smooth lawn, in striking contrast to the rugged wilderness around. At one corner of it is an immense cairn, the burial-place probably of some British brave; and over all tower the dark crags of Hardknot Fell. All is silent and lonely now; no sound stirs, save the infrequent scream of the buz-

zard or the bleat of the hill sheep; but the place must have been full of movement once, when the rocks echoed to the trumpets of the legion, and the cohorts wheeled and deployed on the drill-ground so empty now.

June

XLVIII

THE flurry of spring has settled down to the affluent fruition of full summer-tide. Intense heat in May has made up the leeway caused by what will be talked of for many years to come as the severest winter on record—that of 1894-5. Even the ash has found it incompatible with decency to remain naked any longer; and as for the oaks, by Royal Oak Day (May 29) not one king only, but a whole dynasty might have sheltered unseen in the branches of any tree of moderate size.

Full Summer-Tide

The meadows beside the Itchen have taken a more varied hue, less brilliant than spring verdure, but more richly jewelled. The most princely flower there is the sceptred flower-de-luce, which in heraldic lore vies with the oak as the emblem of rule. But the most delicate masterpiece of the marsh at this season is the lowlier buckbean (*Menyanthes trifoliata*),

with pink buds and exquisitely fringed blossoms of pearly white, growing in company with sapphire brooklime and turquoise forget-me-not. The buck-bean belongs to the Gentian family, and possesses the bitter properties of its relatives. In Scotland, especially in Renfrewshire, country people prepare a tisane from its leaves, supposed to be a remedy for rheumatism, but they disguise the bitter flavour with such quantities of sugar as to endanger, one would think, its tonic virtue. The most fragrant riverside flower now coming into bloom is the meadow-sweet. There is a seeming ambiguity in the scientific name of this plant, *Spiræa*, for there is nothing spiral in the habit of this or any other member of the large and charming group to which it belongs. It is not till the lens reveals the spiral or twisted arrangement of the seed-capsules that one realises why Linnæus chose to distinguish this genus from the rest of the rose family by the title *Spiræa*—the twisted one.

River shallows which, but a few weeks ago, were ridged with rime and solid ice, are now white with the mimic snow of water ranunculus. The blaze of golden kingcups has yielded place to the lighter fretwork of buttercups, and ragged-robin flings a

rosy veil over the graves of departed lady's-smocks. Spotted orchises have leapt from the mould with torches of pale purple. Few people care to know how grandly this plant (not to be confused with the early purple orchis) repays cultivation, especially a robust variety, sold by nurserymen as the Kilmarnock orchis. Planted in generous garden soil, it throws up spikes eighteen inches long, and well-established clumps will carry as many as a score of these. From the river margin the great water-dock (*Rumex hydrolapathum*) displays its splendid foliage, more sumptuous than many a costly exotic grown for table decoration. It was on this plant that the caterpillar of the Large Copper butterfly (*Polyommatus dispar*) used to feed, a species almost certainly extinct in Britain, the last recorded specimen having been obtained in Huntingdonshire in 1847. However, butterflies have a mysterious way of reappearing after a prolonged absence; the food of this insect is still plentiful in the country, and some watchful, lucky entomologist may strike the short cut to fame by discovering it afresh.

Ruskin insisted in one of his earlier works that the beauty of natural forms never depends on violent curves, the most intricate and ornate arrangements

consisting of lines barely deflected from straightness. From no foliage can the draughtsman learn this lesson more clearly than from that of the water-dock; analysis of the complicated group will show that all its curves are gentle, sometimes barely perceptible.

XLIX

Summer Birds

If the movement of life does not seem so headlong in June as it was in May, there is no real relaxation of energy, either among birds or plants. The reed and sedge warblers are not so vociferous as they were a month ago, but they are not the less intent on household cares. Of all waterside birds, there is none that makes such a brave display with such modest material as the reed bunting (*Emberiza schœniculus*). The plumage of the male bird is not greatly different in hue and arrangement from that of the cock sparrow—not the disreputable dingy London individual, but such as may be seen in any country farmyard. The bunting's back, however, is of a brighter brown, his jetty cap is more jauntily worn, and the brilliance of his white breast and collar give him a far more dressy appear-

ance than the cockiest sparrow that ever hopped. Add to this the grace and agility of his movements, and you have a bird that seems born to the purple, though by some accident nothing more vivid than russet, black and white, has been served out to him.

Late in these delicious evenings may be heard the nightjar—latest of our summer migrants to arrive and earliest to depart—reeling off his strange cry like a wooden rattle. No bird has suffered more unjustly than this one from a variety of libellous names. Closely crepuscular in habits, its uncanny looks brought suspicion on it while the world was yet very young. Thus Pliny gravely dubbed it *Caprimulgus*, Aristotle *Aigothelas*, terms which we have closely translated 'goatsucker,' thus indorsing the ridiculous idea that it sucks the milk of cows and goats, arising from its custom of pursuing winged insects under the bellies of cattle. Then the titles of fern-owl and night-hawk brought it into the gamekeeper's *Index expurgatorius* as vermin, though another of its popular names, dor-hawk—the scourge of dors or beetles—ought to have sufficed to protect it. Thousands of these beautiful and useful birds have paid the death-penalty on the charge of killing game and sucking milk or eggs,

though the least intelligent rustic, one would say, might perceive that its wide gape and weak, fringed beak render it wholly incapable of any of these crimes. The nightjar is, of course, neither a hawk nor an owl, but a near relative of the swallows, and feeds exclusively on insects captured on the wing. If, as is hardly likely, you are so sharpsighted as to detect the nightjar perched on a tree, you shall never see him sitting athwart the bough after the manner of other birds, but always lengthways, and closely parallel to it. But you are very likely to flush the parent birds after the young ones are hatched, and these may lead you a long chase by the time-honoured feint of a broken wing, to draw you away from the brood.

As the nesting season draws to a close, the male birds of many species take back-seats. The cuckoo loses his voice, the throstle and merle their song; the cock pheasant seems to shrink by one-third of his former size, the scarlet patch round his eye dwindles and gets dim, and the horn-like ear-coverts, so characteristic of the nuptial dress, disappear. But this is slight disfigurement compared to that which befalls the mallard—the male of the common wild-duck. This bird is among the earliest native

species to incubate. The female sits close for some eight-and-twenty days, while her mate plays the part of a well-dressed loafer, airing his fine plumage in the spring sunshine with others of his own sex, and paying no attention to his offspring when hatched, though the duck is one of the best of mothers. It is a pretty sight to watch her in some shallow bay, floating quietly with that look of ineffable content which all the duck tribe have more or less, while the young brood dart around in all directions after flies. Often, during May and June, the angler, stalking a rising trout, is baulked by a mother duck, scrambling, a pretended cripple at his feet, and splashing away right over his chosen cast, while the ducklings quickly thread their way to safety among the flags. But from mid-June the mallard may be seen no more till autumn. His beautiful green head and neck are disfigured, partially by a special summer moult extending to nearly all parts of the body and impairing or actually suspending his power of flight, and partially by discolouration of the old feathers. Henceforward, indistinguishable in plumage from the duck, he will skulk about in secret places till, early in October, the autumn moult begins to restore his beauty and

vigour, and he becomes again one of the most conspicuous of our wild birds. It is curious how many people, with ample opportunities of becoming familiar with nature, have overlooked this summer masquerade of the wild duck, which is the more remarkable because the domestic duck, undoubtedly descended from the mallard, undergoes no such seasonal change. This summer disguise of a brilliant bird reminds one of the observance of the ancient Aztec nobles, who were compelled to conceal their gay dresses under robes of sackcloth before entering the presence of Montezuma.

L

A Word to Anglers in Hot Weather

Trout are now in prime condition, and no prettier present can be offered than a brace of silvery beauties freshly caught. But too often they are allowed to lose all their freshness before they come to hand. Some people cram the basket or bag with grass or other herbage, thinking thereby to protect the fish from the heat. It is useless—worse, it is mischievous, for half-withered grass is apt to impart an evil flavour, and it discolours lustrous scales. Let each

trout as it is caught be wrapped promptly in paper —good newspaper will do—which excludes heated air better than anything else. Then, at the close of the day, unroll your spoil, and each trout will be found bright and stiff, fit to set before the daintiest lady in the land. This wrinkle will prove of special service when you get that six-pounder, which you intend, of course, to have stuffed as a trophy. You will be able to send it to the preserver without those blotches and streaks of discolouration which, being indelible, render hand-painting necessary. But for the love of all that is gracious, do not leave scraps of newspaper lying on the river bank! for of all objects in a summer landscape, none are more obscene than these, and there are places where even the *Athenæum* or the *Church Times* are an eyesore.

LI

Loch Trout-Fishing

This is the month of all the year which Christopher North, not without good reason, preferred above all others for trout-fishing in Scottish lochs. Dry-fly adepts hesitate to recognise the most successful lake-fisher as an

artist, and there is some reason for their superciliousness. For the fact is, that whereas a bungler *may* catch fish by casting flies at random from a boat, he *must* be purged of his bungling before scoring a single capture in a chalk-stream, and have ascended many degrees towards excellence before he can number his victims by brace. Nevertheless, the bungler, bungle he never so diligently, will find that the trout in most Scottish lochs are no longer the ravenous dupes that once they were. They take a lot of catching, though exacting consideration of a different kind from that required on the Test or Itchen.

The angler passing from the banks of a southern stream to the shores of a Scottish loch meets with fish of identically the same species as he has left behind him; but how different is their behaviour! Compare the hurried, splashing, hit-or-miss rise of a Highland trout with the leisurely approach, suspicious scrutiny, and noiseless 'sip' of his relative in Hampshire. After all, there is a reason for this; though it did not occur to me till after several days' salmon fishing in a lake led me to reflect on the different behaviour in taking the fly pursued by the salmon in the lake, compared with

that of the same fish in the river running out of it. Seven salmon out of ten hooked in a stream take the fly under water, without breaking the surface till they feel the hook; nine out of ten coming at the fly in a lake rise with a dash, often throwing themselves clean out of the water in seizing it. The reason is pretty obvious. In still water, even when agitated by wind, the fly must be drawn pretty quickly along the surface to keep the line taut; to the salmon it seems as if the creature which has excited his curiosity is on the point of escaping, and he shows himself in his desperate hurry to overtake it. In a stream, on the other hand, the most deadly moment is just when the fly comes 'to hang;' it is then nearly stationary, and the fish can take it at his leisure. I have repeatedly watched a salmon rise behind a brother angler's fly in a strong stream, poise itself, and then with a forward, but not violent movement, glide on and take it. So it is with trout. Put a floating fly over a Scottish burn trout, and, provided the stream is not too swift, he will rise to meet and take it with no greater disturbance of the water than the most sophisticated inhabitant of a chalk stream.

But the marked contrast between the behaviour

of Scottish and English trout when hooked must be accounted for in some other way. The English fish (of course, the allusion is only to fish in the southern counties) make a brave show at first, having a specially embarrassing knack of rushing straight down stream towards the angler's feet, causing a disastrous slack in the line, unless it is smartly drawn downwards through the rings. If he does not run towards you, he makes a spirited dash up or across the stream, and nothing could stir the nerves more pleasantly than his conduct so far. But supposing the angler to be man enough to hold his own through this initial display, there is very little more to follow. Provided the fish does not catch sight of his foe, and plunge frantically into a bed of weeds (trout will seldom weed themselves unless they see the fisherman), he yields after the first rush with little more spirit than a lubberly chub. A Scottish trout, on the other hand, will fight to his last gasp, leaping often from the water and running as strong after a few seconds' repose as at the first rush. Nobody with experience of northern and southern fish can have the slightest hesitation in affirming that, were an angler to begin operations on the shore of a loch where the trout

run a fair average, say from three-quarters of a pound to three pounds, using the gossamer tackle which is indispensable to successful dry-fly practice, probably one fish in every three hooked would break him.

This applies only to fishing off the shore, or wading, when the effort of the fish is always to get into the deep water. In fishing from a boat the odds are greatly in favour of the fisherman, seeing that the fish may be followed. Be it observed here that half the excitement of loch fishing is lost in the usual practice of casting from a boat. In almost every loch there are points and bays which may be easily covered by one on the shore or wading moderately deep. The labour is greater, no doubt, but so is the sport when a good trout is hooked, as the angler is more or less a fixed point. No one who has not experienced it can realise what a splendid fight is made by a three-pound trout, hooked on moderately fine tackle by one wading to mid-thigh. He spins off a score of yards of line at the first rush, throws himself aloft, bores into the deep till the point of the little 'Dunkeld' is buried in the water, sweeps round in a semicircle, the line cutting the waves like the prow of a racing cutter,

and not till he settles to quieter tactics dares the fisher begin to make his way ashore. Half, at least, of the exquisite anxiety of the struggle is sacrificed if oars may be plied in whatever direction the fish is heading.

The advantage of shore fishing over fishing from a boat is chiefly apparent in May and June, when most feeding trout lie along the line where the water deepens to more than three feet. Later on, when summer heat has raised the temperature of the whole lake, roving trout may be seen rising all over it, and a boat must be had to reach them. But even in July and August good fish sport may be enjoyed off the shore, especially off points and capes, which are better at that season than earlier in the year, when most execution is done in sheltered bays.

In lakes where trout are large but few, it is weary work to thrash the waste of water on the chance of the flies falling within view of one of them. In such places a flood comes in very usefully to save labour. The fish then congregate round the mouths of hill burns, keenly on the look-out for what the swollen waters may bring down to them. There, if anywhere, may rising trout be marked, and busi-

ness done with some of the whoppers that seldom come abroad in the daytime under normal circumstances.

LII

In this blessed land of freedom one is permitted to entertain and proclaim opinions of every degree of latitude on any conceivable subject. That is a great privilege, no doubt; but a still greater is that nobody is compelled to listen to, still less to agree with, the opinions of anybody else. I am transgressing no law, therefore, in affirming that the only sportsmanlike way of taking trout is with the artificial fly, although that will be reckoned rank heresy by those who own Izaak Walton as the only true head. Mr. Andrew Lang, in editing one of the hundred and odd editions of the *Compleat Angler*, was the first to point out that Izaak was no fly-fisher. It is true that he gives a jury of twelve flies, with directions how to tie them; but these were cribbed *sans phrase* from an earlier authority, Mr. Barker. Walton himself had his limitations; he had heard of, but never seen, the use of a reel, and he relied for his diversion on 'the cork or trembling quill.'

Fishing with Minnow

Bottom-fishing with a float for trout can have but few advocates now, though I have known it resorted to in a loch, not without success, when the fish were 'dour'; but minnow-fishing, unhappily, is far too prevalent, especially in Scotland. It is one of those acts of which a man may say with the Apostle that all things are lawful for him, but all things are not expedient. Time was when he who persisted in whistling on the Sabbath in Scotland assuredly would have been brought in collision with the law, which in that fair land is called the Shirra; and to this day there remain plenty of occasions for stumbling into the presence of that omnipresent functionary. But the Shirra has no terrors for minnow-fishers; so minnow-fishing, however inexpedient, must be reckoned among things that are lawful.

There are times for minnow-fishing, too, as there are times for other melancholy or inglorious occupations; for there are trout in Scotland so lost to all refined feeling, that the March brown and heckum-peckum stir no appetite in their weighty carcases, and the Zulu and red-and-teal may be trailed never so cunningly over their haunts without producing so much as the twinkle of a fin. To such fish—

hostes piscariæ gentis—approach must be had in the only way suited to their gross palates, and Acheron must be moved to avert a blank day.

Let no one who has control over a sheet of water where trout behave like creatures of gentle breeding permit the use of the minnow under any pretext whatever. Loch Leven is such a sheet of water, its trout being models of behaviour as well as symmetry. Few other waters contain fish of such free rising propensity, combined with goodly size, and none are more perpetually flogged. Yet there are 'dour' days on Loch Leven as well as on lochs of less repute; days on which, in the language of the Stock Exchange, it might be reported that 'a general dull tone, difficult to account for, prevailed in all departments. Small lots of Duns and cinnamon reds freely on offer met with a total absence of demand. All stocks, however, firmly held in expectation of a rise.' Now, inasmuch as the public are invited to angle in Loch Leven on payment of a substantial, though by no means exorbitant sum, they are not fond of planking down their dollars (payment, by the by, at Loch Leven is expected in the national coinage of bawbees, though southern money will not be refused) and going home with empty creels. So

recourse is had to natural and unnatural minnows —phantoms, pearlbacks, kill-devils, Devon spinners, and other unhallowed contrivances, which are plied daily from shore to shore. That Loch Leven is not utterly ruined for sport, and continues to produce trout light-hearted enough to rise at the fly in the face of such disheartening treatment, shows how extraordinary are its resources.

The fact is, that a trout hooked on strong tackle, its mouth crammed with several triangles, and with the weight of forty yards of submerged line to contend with, can offer no good fight. Sport degenerates into the merest pot-hunting.

LIII

Salmo ferox

But there are exceptional lochs where the use of the minnow is not only pardonable but commendable, inasmuch as it is the only way of catching trout which have become incorrigible cannibals, and highly exciting, by reason of the immense size to which these fish attain. These lakes are the profound abysses among the Highland hills, and the great trout which lurk in their depths have been distinguished as a separate species by some

naturalists, under the title of *Salmo ferox*. But there is no reason to believe that they are anything but overgrown specimens of the common brook or loch trout; in fact, I once took in Loch Arkaig five fish in an afternoon's trolling, ranging from seventeen-and-a-half pounds to two-and-a-half pounds, of which all were reckoned *ferox*, because of the method of their capture; but the smaller ones might have come out of a club water in Hampshire. On the other hand, I have seen trout of ten pounds and twelve pounds taken with prawn and minnow out of the pool below Romsey Bridge on the Test; nobody thought of calling them *ferox*, though they presented all the outward characteristics of that so-called species, except that, from living in shallower water, they had not acquired the dark purple and black complexion of the northern monsters. This peculiar dark tint disappears after the fish has been out of the water for some hours in a cool place.

However, *Salmo ferox* is a really good descriptive name for a class of trout taken in deep and extensive lakes, for these are the fiercest of all British fresh-water fishes. The pike compares with a typical ferox as a Southdown sheep-dog does with a grey wolf. The pike has a Pecksniffian air, as of one

who should say—'It is true, my friends, that there is a pound trout inside me; it is quite extraordinary how valuable articles get mislaid. There are also half-a-dozen poor little salmon fry, not to mention a misguided grandchild of my own; but, then, you see, that's what comes of my having such a confoundedly wide mouth. I am rather forgetful sometimes, and leave it open, and then these things get into it.' But there is no disguise upon the countenance of a *ferox*. It is seamed with hatred in every line of it; the huge underhung mouth is an engine of insatiable gluttony; and the deep-set eyes have exchanged the expression of mild misanthropy you see in those of a young trout for a look of malignant cunning. 'Ah!' you may hear him mutter between your knees as you extricate your tackle from his well-armed jaws, 'wouldn't I like to bite your leg off, you big brute! Wouldn't I like to have you in a cool ten fathoms of water. *I'd* tear you into bloody ribbons before I'd done with you.'

The largest lake trout to the capture of which I can personally testify (though I was not the captor) was one of twenty-two pounds taken in Loch Arkaig. Larger ones have been recorded, but not very many of them. To attain such dimensions, or anything

approaching them, requires exceptional conditions of depth and space. In waters where food is very abundant, it is true that monsters do manage to exist unmolested long enough to grow to prodigious size; witness the sixteen pounds trout secured in a dubious way in the Itchen by a labouring man some years ago. But lochs that produce big *ferox* are invariably both extensive and very deep. These fish must have profound solitudes to harbour in by day, and plenty of sea-room too for privateering at night. Your requisites to compass the destruction of a *ferox* are a good boat and a couple of stout rowers (not a steam launch, surely, for you are after noble quarry, and should treat him chivalrously), two strong rods with not less than a hundred and twenty yards of flawless line on the reel of each, spinning tackle of the best (pay special attention to the temper of the triangle hooks), and good store of troutlets for bait. Phantom minnows will do business at times, or other artificial lures; but there is nothing to compare with the young of their own species to take these patriarchs withal. In nearly every Highland loch there is a belt of shoal water round the shores, whence the bottom shelves rapidly or plunges cliff-like to a great depth. It is along this line that the

bait is most often seized. It ought not to swim at a less depth than eight to twelve feet, to ensure which at least fifty yards of line should be paid out. In crossing the lake or its bays the depth should be increased, for these fish ever lie deep in the day-time, though as the shades begin to fall they move towards the shores to feed. Diligence is essential, and a rough wind conducive to success, and the rush and wild plunge of a good *ferox* make it worth while to exercise the first in the teeth of the last. When you have got him—hum! *ferox* is eatable certainly, but not exactly the kind of food to pine for. It is best late in the season, and then ought to be broiled in steaks.

LIV

A Moorland Tarn

Albeit *ferox* can only be found in great and deep lakes, there are often good thumping trout to be caught in very insignificant tarns. There is, moreover, a notable charm in casting angle where few have ever done so before. Mystery is the dominant attraction in fishing, and in remote hill lochs one never knows what may populate the dark waters—sprats or sockdologers. One such

lakelet I had heard of as a boy, but never had fished or heard of anybody else fishing. It lies in the middle of a dreary tract of peat moss, which once, no doubt, was a wide mere, of which this tarn is the last remaining driblet, extending barely to a couple of acres, one-third of it reed-beds. Shooting grouse along its margin one day, I noticed a fish rise, and made a mental note to put a fly over it on the first opportunity. This did not occur till the following year, when, on a day in early June, I had been fishing in vain with a friend an excellent loch near the sea. It was no use; we could not persuade the trout to do business any way; so in despair I proposed an excursion to the moorland tarn. The way to it was rough, over several miles of moss and moor, but we were young and tough, and by four in the afternoon were standing on its solitary marge. A dismal scene it was, and unpromising for our craft. Three sides of the pool were surrounded by quaking bog, fringed with reeds; on the fourth side, the only part where it might be possible to cast a fly, the wind blew in straight and hard, driving the inky waves upon cavernous resounding banks of peat, crested with rank heather, while the softness of the bottom put wading out of the question. Fish-

ing, in fact, was out of the question; we had endured our toil for nothing; there was nothing for it but to make our way back whence we had come.

We were gazing dejectedly at the dreary little hole, when suddenly, hopelessly out of reach, there came a spanking rise, followed shortly by another. There were good fish, then, in this unpromising abode, though they might as well have been in Kamschatka for all the use they were to us. Thereupon befell a strange thing. It was the Devil himself that put a simultaneous thought in both our minds. Our eyes met and sank guiltily.

'Eh?' gasped my friend, with a wretched attempt at a smile.

I nodded, with a still more abortive manifestation of mirth.

We looked behind us and all around. There was no sign of human presence or habitation, not even a bird to carry the tale of the dreadful deed that was in our minds. Without a word spoken, we sat down on the heather and unbuckled our flybooks right away. Five strong casting lines we chose and knotted together, end to end; twenty good flies we appended to them at due intervals; and then, with

tremulous fingers, attached the ends of the fifteen yards of gut to the ends of our two reel lines, I stole round the margin to the farther shore, amid hummocks of bog-myrtle and peat, the while the reels spun out the line as the distance between the conspirators widened. Then, being on opposite sides of the tarn, distant from each other may be a hundred yards or thereby, we began to draw the flies slowly along the surface of the water.

Bang! he has it: a good thumper too, and we begin to play him in concert.

Alas! for the best-laid plans. The trout had not made more than a couple of somersaults when one of the casting lines parted, and he was free. I, to keep the unmanageable length of line from the bottom, began running backwards over the moor, and presently plunged headlong into a wet moss hole. However, to cut this long yarn short, and make a clean breast of it, damages were soon repaired, the same tactics were renewed, and by this nefarious device some very good trout were landed. They were as dark as tench, but beautifully shaped, and proved on the table as sweet as if their skins had shown the lustre of gold and rubies.

July

LV

Thoughtless Cruelty

How much more deeply cruelty offends when it is enacted in fair scenes! So I thought to myself one Sunday evening not long ago, witnessing an unpleasant incident in the meadows below Winchester. Troops of swifts were sweeping low and fast over the Itchen; round and round they went with shrill, soft cries, rejoicing in their perfect wingmanship. At a bend of the stream stood a couple of fellows with long sticks, hitting at the birds as they went by. Generally they missed their aim, but every now and then there was a shout and much unlovely laughter, as one or other of them knocked one of the birds down in mid flight. My first impulse was to go up and tell the clowns they were a couple of cruel rascals, and order them to desist. What was it restrained me—prudence, justice, or cowardice? Perhaps a mixture of all three; for here are some of my reflec-

tions as I turned away and sauntered home. I had come to Winchester for trout-fishing, as it was not impossible that the lads might divine, for many idlers resort to that sweet town for no other purpose; and if so, had I interfered, might they not have asked, with redundant expletive, what business I as a trout-fisher had to spoil their sport? Was it because I was opulent enough to afford a split cane rod that I objected to their wielding rough poles? Killing was the object of both kinds of weapon; but whereas they, in knocking down swifts, were guilty of no more than ordinary assault with intent to kill, did not I, with my red quills, olive duns, and invisible gut, preface murder with deliberate fraud? They might have explained that, if they had but the chance, they would have infinitely preferred catching toothsome trout to killing useless swifts; and that, as for skill, perhaps one amusement called for as much practice and quickness of eye and hand as the other. So, on the whole, perhaps I did well to hold my peace.

LVI

Turn to a prettier prospect. Here, on the same river, a few miles above Winchester, hard by Itchen Stoke, where, in February 1306, Edward I. was lodging for hunting when they brought him word of the murder of John Comyn by Robert de Brus in distant Dumfries, is a disused chalk-pit. The floor is closely carpeted with sward, spangled with bugles and buttercups, and tufted in parts with bramble and wild rose. On three sides rises the snowy cliff of chalk, draped with pendent sprays, and crowned with lofty trees that temper the intense sunlight, so that this nook is fresh and green all the summer through. One may come on many such a sunny spot among the southern downs; but the special interest presented by this one at this moment is that within a radius of twenty yards three pairs of particularly attractive birds have chosen to build their nests. Of these the first is a pair of bulfinches, of whose nest and its local exact locality the less said the better, because people in these parts and elsewhere have a craze for making cage prisoners of the nestlings. The same may be said of the second

An Old Chalk Pit

couple, which are goldfinches; than which no bird has paid more dearly for wearing gay feathers; it is the favourite booty of the birdcatcher. But there is little risk in describing the third little household, for it is that of a pair of red-backed shrikes—the lesser butcher-bird—and no fancier will covet their brood. This shrike (*Lanius collurio*), though it cannot be considered rare in the south, is quite infrequent enough to deserve careful attention. It is, too, a bird of character, sinister, as must be allowed, having earned some infamy from its practice of gibbeting beetles, moths, and even small mammals and reptiles, which it impales on thorns so as to have a convenient larder. But anybody who has watched how ruthlessly a thrush will treat a worm in its efforts to draw it out of the turf, acting on the principle that half a worm is better than no breakfast, will not judge the shrike too harshly in the matter of mercy.

The hen is sitting closely on five olive-mottled eggs, in a briar bush in the centre of the miniature prairie within the chalk-pit. She is a sad-coloured, unattractive creature; but the cock bird, perched aloft on the cliff, and making occasional raids on insect life, is a pretty object for the spyglass, with

his ruddy back and rosy grey breast, posing as the model breadwinner of a blameless family. There is something ominous though in his mien; although no larger than a nightingale, he is very powerfully built, with solid shoulders, sitting low and mute on his perch. There is, too, a suggestion of the executioner in the singular black mask drawn across his eyes and forehead to the ear coverts. This is the second season that a pair of these shrikes have reared their young in this brake, and last year careful and repeated search failed to disclose their larder. This year, however, perseverance has been rewarded by its discovery in the recesses of a blackthorn thicket on the edge of the pit. The *pièce de résistance* in the store was the mangled carcase of a field-vole or long-tailed mouse (it was too much decomposed to tell which), wound tightly among the thorns.

LVII

Rats, Mice, and Voles

Of all the dogs which have suffered from our malice in giving them bad names, none has been more unfairly treated than the water-rat. He owes a grudge to Nature, too, for bestowing on him the garb and mien of the criminal

classes. In spite of that, there is no more blameless existence than that of this pretty rodent. You can see all he does, for his habits are diurnal, instead of nocturnal, like those of rats and mice. Watch him as he swims from point to point of the bank; if you stand still, he will land almost at your feet and nibble the stems of the succulent grasses, just as his powerful relative the beaver once gnawed tree-stems in this Itchen valley. The truth is, the water-rat is not a rat (*Mus*) at all, but a vole (*Arvicola*), the only true water-rat being found in Australia (*Hydromys*). The voles may be distinguished from rats and mice by several external marks, such as blunt instead of pointed snouts, short instead of long tails, stumpy ears and small eyes. But the most important difference is in the teeth; the peculiar structure of its molars, which have been pronounced the perfection of molar dentition, ought to exonerate the water-vole for ever from all suspicion of eating spawn, fish, or other perquisites of greedy man. The twelve molars have no roots, but grow on endlessly like the incisors of other rodents, supplying the constant wear caused by gnawing. They are tubes of hard enamel, corrugated longitudinally, filled with soft material.

Out of about forty known species of vole, three inhabit the British Isles, namely, the water-vole (*Arvicola amphibius*); the field-vole (*A. agrestis*), which is the pest that occasionally multiplies inordinately and destroys immense tracts of pasture and young woods; and the bank-vole (*A. glareolus*), dignified by some naturalists as a separate genus, because its characteristic vole molars sometimes alter with age, the pulp cavities hardening, and regular roots forming.

It cannot be too widely known that anybody killing a water-vole is destroying a perfectly harmless animal.

LVIII

Why Cattle should be kept in Herds

Forcibly as every observant mind must be impressed by the ingenious mechanism provided by Nature for the wants of animal and vegetable life, one is sometimes inclined to suggest remedies to apparent imperfections. These lines are written in a riverside tavern in Hampshire, where I am sheltering from the torrid heat till approaching dusk shall set the trout astir once more. In a little meadow

before the door, toasted to tinder by weeks of fierce sunshine, grazes a good Alderney cow, type of patient usefulness. Depending as I do on her to supply me with cream and butter for breakfast, I cannot be indifferent to things concerning her comfort; and, seeing that July is the worst month in all the calendar for flies, I am glad to note that she has a fine switch of black hair at the end of her tail, and that with this efficient fly-flap she keeps her loins and ribs free from annoyance. But obviously it is not long enough; it does not reach her forequarters; her withers, shoulders, and dewlap are densely covered with black swarms of flies, which must be intensely irritating. Now, if I had been designing a cow, methinks I should either have made the tail a couple of feet longer, or, better, brought out a subsidiary one halfway up the spinal column, to serve the poor beast's fore-quarters.

'Gently there! Mr. Humanitarian,' I seemed to hear somebody whisper, 'put the saddle on the right horse if you please. It is only too true that yonder gentle creature is suffering horribly, but whose fault is that?'

It did not require profound or prolonged reflection to show where the blame really lay. It was

not with Nature's animal designer after all. Beasts that cannot lick, scratch, or switch their own fore-quarters are intended to go in herds, and to get their companions to perform these services for them. It follows, therefore, that it is an act of cruel thoughtlessness to turn out a solitary cow to endure persecution by flies.

Since this little incident happened, I have paid more attention to the habits of gregarious animals, and the degree in which they are dependent on each other for their comfort. While eating my sandwich one day beside the Tweed at Sprouston, I watched the behaviour of a small herd of heifers and bullocks. One of these seemed to be in special request as *coiffeur*; one after another its companions came to it, made it desist from feeding in order to lick their necks and faces. It really was very remarkable how good-natured this creature was, and how freely it placed its rough tongue at the disposal of its fellows. For fully half an hour it was occupied in this way, snatching not more than a dozen mouthfuls the while, and I left it so engaged in order to resume my fishing.

Mr. Cornish mentions in his charming little book, *Animals at Work and Play*, how the unhappy solitary

giraffe at the Zoo makes all its coat bright and clean except its neck, which, as the beast has no companion to wash it, is several shades darker than the rest of its body, and is a source of manifest discomfort.

LIX

Douglas

Standing on Auchensauch Hill, in the upper ward of Lanarkshire, one may view the Black Burn flowing eastward towards the Clyde, and on the west the Douglas Water taking a northward course to join the same river lower down near Lanark. The renown of a name comes from the acts of those who bear it; yet it is difficult to believe that, had the lords of this land chosen as their title, not the Celtic name of Douglas, but its Saxon equivalent Blackburn, chivalrous and historic association could have woven themselves so closely round it as they have round Douglas the tender and true. There are a hundred streams in the north called Douglas and Blackburn (the meaning is identical); but this Douglas — this sluggish, loamy current winding through its green upland dale—is famous above all other 'black-waters,' for it has yielded its name to the most illustrious house in Scotland.

Of the original stronghold—

> 'The aventurous castell of Douglas,
> That to kep sa peralous was'—

not a trace now remains. The present house is part of a magnificent design undertaken by the Duke of Douglas in the eighteenth century, to replace an earlier structure battered down by Cromwell in 1651. Fired by that ardour for stone and lime which has told so banefully on the fortune of many a Scottish laird less able to sustain it, the Duke commissioned the architect Adam to build him a castle ten feet greater in height, length, and breadth than the Duke of Argyll's at Inveraray. All that Douglas lived to see was one wing completed, which forms the present house, for the main block was never even begun.

It is from the teeming past that Douglas depends for its power on the fancy—on the days when the very existence of Scotland among the nations was at stake. Sir James of Douglas, afterwards the first Lord Douglas, was the trustiest and doughtiest of Bruce's comrades in the terrible winter of 1306-7, and Sir Robert de Clifford held his castle for King Edward. Leaving his king among the mountains

around Glentrool, Douglas, weary of ever skulking in hiding, resolved to strike one blow in the offensive. Coming in disguise, with two companions only, to Hazelside, on his own lands in Lanarkshire, he was gladly received by Thomas Dickson, an old retainer of his father. The English garrison had earned plenty of ill-will in the neighbourhood, and there was no difficulty in getting volunteers for a plot to seize the castle. On Palm Sunday, 1307, the garrison paraded and marched off to hear mass at St. Bride's chapel, about a mile from the castle. Douglas and his confederates, disguised as peasants, crowded into the chapel behind the soldiers. The service was proceeding quietly, when suddenly some one cried out aloud, 'A Douglas!' In a moment the soldiers were overpowered, half of them slain, and the rest bound as prisoners. Returning to the castle, Douglas found it in charge only of the porter and cook, the latter busy making ready the soldiers' dinner. Having done full justice to the welcome meal, the Scots pillaged the building, piled the stores and provisions which were too heavy to remove, broached the wine-barrels, beheaded their prisoners, and, tossing into the heap the bodies of men and horses, set fire to it and

burnt the castle to the ground. This grisly affair was remembered as the 'Douglas Larder;' for, says Barbour—

'Mele and malt and blud and wyn
Ran all togidder in a mellyn,
That was unsemly for to se:
Tharfor the men of that cuntre,
For sic thingis thar mellit[1] wer,
Callit it the Douglas lardener.'

This took place on March 19th, and de Clifford was busy all that summer in rebuilding the castle. Sir John de Wanton was placed in command, having been made constable at his own request. He loved a lady, it seems, who was not unkind, but would only consent to 'name the day' after he had proved himself 'ane gud bacheler' by holding this terrible fortress for a whole year—no light task, considering how closely its rightful owner kept his eye on it. Lanark Fair took place early in October of the same year in which the Douglas Larder had been enacted. Douglas deemed it high time to beat up the English quarters again. He laid a strong ambush near the castle, and, choosing fourteen stout fellows, caused them to pull country

[1] Mingled.

IN GLENTROOL.

frocks over their harness, to stuff some sacks with grass and lay them on the backs of their horses. Then they were to defile in full view of the castle, as if they were farmers on their way to the market. De Wanton was known to be short of provender, and Douglas reckoned on his laying a strong hand on the sacks, apparently full of corn. Sure enough, no sooner did the warder spy the little company than he sent word to the constable, who himself rode out with a small party to overhaul it. But he caught a Tartar; the supposed rustics entered into parley; but no sooner were the soldiers completely off their guard than the brave lads threw off their frocks, tumbled the sacks on the ground, sprang into their saddles, and attacked Sir John's party. At the same moment Douglas led up his ambush, and the English were taken in front and rear. Sir John de Wanton was slain, and there was found on his person the fatal letter from his lady-love, obedience to which had cost him his life. Douglas caused the unfinished works at the castle to be levelled with the ground, but this time the lives of its garrison were spared.

Such are some of the crowded memories that haunt this dale, peaceful though it lies before us

now in this soft July weather; such, and many more of a like stirring kind, filled the thoughts of Sir Walter Scott when, broken in fortune and in health, he travelled hither to study the scenery of his last romance, *Castle Dangerous*. It is said that as he gazed in silence on the landscape, his aged eyes filled with tears, till he turned away, repeating the words of the dying Douglas to his nephew at Otterburn:—

'My wound is deep, I fain would sleep;
Take thou the vanguard of the three,
And hide me by the bracken bush
That grows on yonder lilye lea.

Oh, bury me by the bracken bush,
Beside the blooming brier,
And never let living mortal ken
That e'er a kindly Scot lies here.'

Wholly altered as Douglas Castle and its environment have been into the commonplace residence of a county magnate, its interest for the casual visitor depends entirely on his knowledge of local lore. But the village of Douglas still betrays its mediæval origin by its narrow, tortuous streets and closes. Still there stands part of the ancient chapel of St. Bride of Douglas, in reproachful contrast to the

ghastly edifices where the faithful of the Established and Free Kirks conduct their praise. Little remains of the building older than the fourteenth century; but among the monuments in the chancel, sorely defaced by centuries of neglect and brutal mischief, there may still be recognised the recumbent figure of Marjory of Abernethy, wife of Hugh de Douglas, who died in 1259. Here sleeps also the comrade of Bruce, the good Sir James, whose monument, with the figure fairly preserved, is the chief ornament in the north wall of the aisle. His heart is reputed to be preserved in one of two leaden caskets, let into glazed recesses on the altar steps; but more probably these contain the hearts of the fifth and eighth Earls of Angus, of whom the former—'Bell-the-Cat'—lies in St. Ninian's shrine at Whithorn.

The present Earl of Home, upon whom, through the female line, have devolved the honours and possessions of this ancient house, has reverently repaired this chapel of St. Bride, and these relics are preserved from further dilapidation.

On a green knoll to the west of the village stands a modern work of art of singular merit. It is a statue in bronze, the work of Mr. Brock, lately erected by the officers of the Cameronian (26th)

Regiment, commemorating James Douglas, Earl of Angus, only son of the second Marquis of Douglas. He raised a regiment of 1200 men from among the Covenanters of the Upper Ward of Lanarkshire, and fell at the head thereof at the battle of Steinkirk in 1692, being then but twenty-one years of age. The sculptor has represented the young lord standing with his hand extended towards the glens whence he drew the regiment, which was known by his name at first, and later became famous as the Cameronians. It is a most impressive monument, worthy of this historic scene.

LX

River Pollution

Perhaps as one to whom angling is the solitary illusion left—the one pursuit which, for me, age cannot wither, nor custom stale its infinite variety—I shall be suspected of prejudice when I affirm that of all saddening, maddening objects in nature, none is so bad as a defiled river. It is never so offensive as at the present season, when the wealth of vegetation is at its height, and life is at its best and most abundant everywhere, down to the very verge of the poisonous flood. It

is the old story of *corruptio optimi*; just as there is no more lovable, irresistibly attractive object in the landscape than a clear running river, so there is none so hideously depressing than a polluted one. Grass may be grimy, trees cankered and smirched, yet these renew their brief verdure every spring, and for a while make brave show in the sunlight; but there is no kindly season for the poisoned stream. Month after month it rolls its inky flood, spewing tainted foam in the rapids and greasy scum in the deeps; no dancing ephemerids haunt its sullen wave, no waterfowl its reedless banks; its never ending office is to bear an obscene freight of drowned puppies and cats, evil rags and (unloveliest flotsam of civilisation) torn newspapers. It was bad enough when, as happened in 1894, not for the first time, the sudden release of mineral waste from Dalmellington pits swept havoc down the channel of Burns's Bonny Doon. Thousands of salmon and trout were destroyed in a single night; but at least that was a transitory calamity. Doon now runs once more with a current as limpid, and sings a melody as sweet, as she did when Coel Hen, irreverently known among ourselves as Old King Cole, reigned in that land. But how many of our

English and Scottish streams, not less richly fraught with historic and poetic association than the Doon, have been turned permanently into *cloacæ*, sickening to gods and men! Even in Ireland, where there are no mines and few manufactures, hundreds of leagues of splendid angling water have been ruined by permitting flax to be steeped in the streams.

They tell us that the Legislature has provided a remedy, but apparently it is not one easily set in motion. It is not much more than a couple of years since the Board of Trade sent down the Inspector of Fisheries to Leeds to receive a deputation from Yorkshire anglers on the subject of river pollution. Delegates attended from Sheffield, Leeds, Bradford, and Scarborough; those from Hull, York, and Wakefield were unable to be present. Heaven only knows the aggregate number of anglers represented by these delegates; but those from Sheffield alone claimed to be the mouthpiece of no less than seven thousand 'organised anglers'—seven thousand contemplative men in one city!

These 'organised anglers' claim to have as much right to clean streams as to clean streets; perhaps they might have put it more strongly, inasmuch as it is the nature of a stream to be pure and that of a

street to be foul. If the river is polluted, it is owing to the act of a manufacturer or the neglect of a municipality. In either case, said the 'organised anglers,' the power that insists on our streets being clean should enforce 'Mundella's Act' for the purification of rivers. It is not fair to ask the contemplative man, who is generally far from affluent, to interrupt his contemplation in order to sue an opulent owner of dyeworks or a powerful corporation.

Bad as things are in Yorkshire, as any traveller by the Midland or Great Northern lines may see for himself, they cannot be in the last stage of hopelessness, seeing that a single town in that county boasts of seven thousand avowed anglers. If there is a great deal to restore, there is also a great deal to preserve; it ought to be done; it is worth encountering a great deal of worry and expense to save such a means of recreation for an artisan population.

LXI

Competitive Anglers

If the truth must be told, these Yorkshire anglers are competitive rather than contemplative, as any one may see by glancing down the columns of the *Fishing Gazette*. Angling

for roach, chub, and other coarse fish is a fine exercise of patience and a few other virtues; but it becomes just a trifle insipid unless extraneous excitement is imported by the addition of stakes. Then your game of patience turns into piquet; and so long as matches are decided and stakes won by the weight of coarse fish captured, no harm is done; for, besides the enormous reproductive powers of such fish, in England, at least, a statutory annual close-time has been established. Unluckily, the killing of trout has been made in Scotland a matter of prize-winning. Almost daily is the sacred bosom of Loch Leven desecrated by this ignoble rivalry; and the hallowed founts of Ettrick and Yarrow are incessantly ransacked with an ardour certainly not born of the sport offered by the wretched fishlets which are creeled. Shameful to say, there is no close-time for breeding trout in Scottish waters. In many districts the open fishings are rendered worthless to fair anglers by the miserable snigglers who destroy gravid and unseasonable fish all through the winter months.

August

LXII

THE angler who falls under the fatal witchery of the dry fly undergoes a serious metem- psychosis. He learns the deeper ecstasy of his art, but gone are the simple delights of 'chuck-and-chance-it.' Henceforward he still may be found drifting on highland loch or wandering beside lowland burn, when the south wind blows its softest under summer clouds, and the air hums with gentle pipe of heather flies and the drowsy base of the gairey bee; but he will be obviously listless, killing the time till he may return to the worship of his new mistress. Nothing rightly stirs his nerves but the even oily flow of a southern chalk-stream, pellucid as the air itself; the full blaze of noontide; great brown trout with eyes in their tails —nay, in every spot in their skins—sucking down the floating duns softly—oh! so softly—or fanning

Dry-Fly Fishing

themselves on shallow sofas of water-crowfoot, inviting a trial of cunning more subtle than their own.

How they hate man and every trace of him, those precociously wise trout! Let but incautious footfall or gleam of varnished cane (why *do* we use shiny rods?) betray his presence, and how they fly! Not merely in terror, but with something that only can be expressed by the Scottish word 'scunner'—a mixture of hatred, fear, and loathing, such as we feel for an unclean insect. Often you may see a goodly fish taking fly after fly out of the mimic fleet that floats above him, dimpling the surface in a degree out of all proportions to his dimensions. You deftly lodge your lure, a perfect image of the natural insect, a yard and a half above him; neatly cocked, it swims in a right line to his lair; he is deceived, as well he may be, and quietly moves to meet it; his jaws are on the point of parting to admit it; suddenly he wheels with tumultuous swirl and darts away. You hear him distinctly exclaim, 'Oh my Golly! look at the gut!' Other trout again make no show of vulgar terror, but simply cease rising, and efface themselves in convenient sidings of weeds.

LXIII

Subaqueous Life

The event in the day of every trout fisher, but especially of the dry-fly fisher, is the rise of fly. Everything hinges on that; but how variable, how uncertain it is! This is greatly borne in upon one in this month of August—of all others the worst in the season. There are hours in every day of every month when not a fin stirs; in August there is often plenty of stir, but of that exasperating kind known as 'smutting,' when the fish are feeding on insects so minute and multitudinous that it is hopeless to present a counterfeit. At such times happy is he who has stuffed into a corner of his bag such a treasure as Professor Miall's *Natural History of Aquatic Insects*, which will help him to understand what a marvellous transaction the 'rise' really is, and what incredibly complex and delicate changes are undergone by minute organisms in passing from larva to imago. Most of them can only be followed through the microscope, but a simple pocket lens suffices to reveal many beauties and more horrors. Yes, horrors; for most of these gauzy fabrics are creatures of prey, armed with infinite variety of murderous weapons, and leading

lives of ceaseless treachery, carnage, and rapine. The business carried on beneath the glassy surface of the stream and in the shining shallows of the pond is one of relentless cruelty. Tennyson, always a trustworthy guide to nature, has dwelt on the beauty of some water-side episodes:—

> 'To-day I saw the dragon-fly
> Come from the wells where he did lie;
> An inner impulse rent the veil
> Of his old husk; from head to tail
> Came out clear plates of sapphire mail.
> He dried his wings: like gauze they grew,
> Through crofts and pastures wet with dew
> A living flash of light he flew.'

No description could be at once more faithful and more poetic; but what bard has dared to describe what went before? Dragon-flies, unlike most insects hatched under water, pass through no chrysalis or pupa stage. The hideous larva creeps out of the ditch where it was spawned, and is transfigured straightway into the gorgeous fly; yet by help of a moderate lens—even with the naked eye—there can be traced in the perfect insect the cruel features and crawling legs of its former state. The larvæ of all dragon-flies (*Odonata*) are distinguished by a peculiar

apparatus covering the mouth like a mask. They are sluggish creatures, crawling on mud or weeds, and slowly swimming, depending on their dingy colouration to enable them to lie in wait for passing insects. Some of them have the power of making a pounce forward by the sudden ejection of a jet of water from their tails, but most of them rely on stealth and the mask for making captures. This mask can be shot out swiftly like a jointed arm, bearing a formidable prehensile weapon, armed with a pair of sharp pincers or toothed jaws. Woe to the luckless *Chironomus* or ephemerid that comes within reach of this terrible trap! There could hardly be a greater contrast between two stages of the same life as exists between the skulking, inactive larva of repulsive aspect, and the darting, soaring, glittering dragon-fly. Yet both are equally voracious; the perfect insect generally will be found to have his mouth stuffed with small flies caught in hawking.

Most aquatic larvæ have hideous forms and forbidding features. Take, for instance, one of the commonest and most rapacious—the *Dytiscus*, one of the water-beetles. Seizing its prey with a pair of sharp, curved mandibles, the blood of the victim

flows down grooves on the inner sides of these, and trickles into the corners of the mouth, after which the *Dytiscus* sometimes devours the solid portion of the carcase. The larva of the great water-beetle (*Hydrophilus*), largest of all British coleoptera except the stag beetle, is even more loathsome to look on, and few amateurs would care to handle it.

Many of these *Coleoptera* have the objectionable faculty of discharging fœtid fluid from various parts of their bodies, which secures them from interference, whether of meddlesome man or of hungry fish and birds. Nevertheless, the structure of these creatures well repays examination. So perfect is the adaptation of means to end, that one is tempted sometimes to feel dissatisfied with the mechanism of the human frame. The swimming legs of the minute *Gyrinus*, or merry-go-round, are most elaborately and masterly inventions, with provision for feathering the little oars, and intricate apparatus for shipping them. Watching a swarm of these steely little dots whirling on the surface of some backwater, one reflects how incalculably swift must be the volition directing the movements of these complex limbs, and incessantly altering the course steered.

On the other hand, how strangely imperfect

seems the arrangement whereby creatures hatched, grown, and living constantly in the water cannot separate dissolved oxygen for their own consumption, as fish do, out of the surrounding medium, but, like whales, must be visiting the surface perpetually for a renewal of the supply. For this reason, those aquatic larvæ which have to pass through a motionless pupa stage mostly crawl out of the water and bury themselves in moist earth to await their final transformation. Certain beetles, however, have hit upon devices for avoiding these constant trips to the surface with all their attendant risks. *Donacia crassipes* is equipped with two spines far back on the abdomen, with a little spiracle or breathing hole at the root of each. The organs of insects, be it observed, have a bewildering knack of appearing in those parts of the person where they are least expected, and there is nothing unusually heterodox in carrying nostrils on the exterior of the stomach. This insect frequents the roots of water-lily and other succulent aquatics, knowing that such roots contain spaces filled with atmospheric air. The *Donacia*, while feeding, probes the roots with its spines, tapping the air reservoirs, and breathing in their contents through the spiracles.

LXIV

The Gribble

The *Donacia* only affords one out of ten thousand examples of marvellous adaptation of structure to the wants of minute animals. Nobody can guess how many ages have rolled by since the primeval *Donacia* was first supplied with spines, but lately there has come to the knowledge of telegraphists an instance of adaptation accomplished within less than half a century. No material, perhaps, has increased so enormously in importance to manufacture in recent times as have indiarubber and guttapercha. At no very distant time it was unknown in the manufactured state; but, not to mention a thousand other uses to which it is applied, its insulating properties have made it indispensable to electrical science, its waterproof properties to our comfort, its resilient powers to bicyclists and carriage folk; while last, but not least, golfers would be parlously embarrassed had they to fall back on the balls stuffed with feathers, costing 3s. 6d. each, which contented our forefathers. But it has remained quite unknown till lately that any animal existed with digestive powers equal to a diet of guttapercha. Such a prodigy has now been

brought to light in the form of a minute marine organism, known as the gribble, which of late years has wrought extraordinary mischief to the insulating covers of the conducting wires in submarine cables. For many years after the inauguration of submarine telegraphy no damage was done to the insulating material, which was simply sheathed in strong iron wire. The gribble had not discovered the excellence of guttapercha as food. Now, however, gribbles are better educated. Gribbles creep between the protecting wires and devour hundreds of miles of guttapercha, leaving the copper conductors unprotected, and, of course, destroying the communication. It has become necessary to wrap the cables throughout their length with brass tape, which at present is found effective in defeating the attacks of the most insidious gribble. But the curious question remains—What did gribbles feed on before the sea bottom was spread with guttapercha? to which it is as difficult to supply an answer as to the old one—What do midges bite when there are no full-blooded men and sweet young ladies on the moors?

LXV

Internal Parasites

People who pry into the structure and habits of the humbler forms of life bring to light some strange domestic histories. Zoology has been extended into so many ramifications that it is impossible for any single individual to explore many of them for himself. He must rely on the guidance of the experts who have devoted themselves to the investigation of separate provinces—the only way in which any advance can be made in science beyond its present stage. Perhaps the subject which possesses least temptation for the average amateur is the study of those revolting groups of animals which take up their abode within the bodies of man and other animals. Nevertheless, some general acquaintance must be had of these creatures if any idea is to be obtained of the versatility, complexity, and economy displayed in the scheme of nature. No better general view of these internal pirates could be presented than has been done in a recent volume of the *Cambridge Natural History*—a publication which, when complete, will constitute the standard British authority on animal life. Messrs. Gamble and Shipley—thoroughly competent and trustworthy guides—have dealt herein with the endoparasitic groups, and it is worth over-

coming the horror which this class of parasite, above all others, excites in the ordinary reader, in order to hear some of the strangest characteristics of animal existence. I dare not quote more than one example, for fear of shocking tender constitutions, and that shall not be one of which human beings have to dread the attacks, for the creature depends only on the frog and a water-snail as its hosts. It is one of the Nematodes or threadworms (*Rhabdonema nigro-venosum*), of which the disgusting life-history begins when it is hatched within the body of its mother. The young brood devour her internal organs, and having accomplished her destruction, escape into the water as free creatures. The next change comes when one of these matricides is swallowed by a frog; it makes its way directly into the lungs, where it grows to be a worm an inch long. Though itself the offspring of two parents, this worm is now a protandrous hermaphrodite, and generates a number of embryos of two distinct sexes. These embryos escape through the elementary canal of the frog, taking up their abode in the excrement, where the sordid cycle begins over again. The peculiarity of all this is, not the alternation of generations—that is far from uncommon—but that a sexual free-living form should alternate with a hermaphrodite parasitic one.

September

LXVI

THE flowers of early summer have sunk out of sight, but their places are filled with blossom not less varied or brilliant. The rose-bay willow-herb has run to the top of its tall ladder and vanished in a cloud of fluffy seeds. Nowhere can this pretty weed be seen in such perfection as in some of the cuttings on the London and South-Western Railway between Alton and Winchester. Rooted in the dry chalk, its petals take a deeper stain of rose than when it grows in woods and moist places; and in order to preserve its balance on the vertical sides of the cutting, it has to adopt a more compact habit of growth than is seen elsewhere. Thistles of every kind have parted with their sculptured formality, and every breeze blows them into further dishevelment. But there is plenty of beauty still.

Autumn Flowers

I spent some time this morning (1895) ad-

miring the rich tangle of an osier-bed on the Itchen. Here was the later willow-herb (*Epilobium hirsutum*), spangled with carmine; the meadow-sweet, with creamy corymbs as fragrant as on midsummer day; white convolvulus; bitter-sweet, bearing purple and yellow flowers mingled with its scarlet berries; white valerian and pink hemp agrimony; yellow marsh *Lysimachia* and crimson loosestrife—all these be flowers of stature. Of more lowly growth are the St. John's worts, golden elecampane, and violet skullcap. This last, however, is not the six-inch dwarf one has seen in the shingle beside a Highland loch; here, heat and moisture have encouraged it to a height of a couple of feet. The glow of colour and the rich setting of reeds and other foliage are what the eye may revel in with content for a long time.

Then the hedge dividing the osiers from the road is draped with graceful briony and wild clematis. Why is this British clematis, with its wan, inconspicuous flowers, called traveller's joy? It is the poor relation of the brilliant exotic species, and there are showier herbs in which wayfarers might be expected to take more delight. Across the road yawns a deserted chalk-pit (not the one where

the red-backed shrike nested), its entrance guarded by an array of stately mulleins—shafts of sulphur-coloured flowers rising from great cushions of grey velvet leaves, broidered round with wild verbena, scabious of lavender hue, and viper's bugloss of intense azure. Farther in there are clusters of the quaint teazle, still carrying its cupped leaf axils full of the shower that fell three days ago. The hollow wood beyond is gay with scarlet fruit-spikes of cuckoo-pint which flowered in April, and beside the river margin the great water-dock has tossed a sanguine spray of seed-vessels far above its noble foliage. Perhaps in no other part of England, notwithstanding the extraordinary variety of its soil, could there be produced such a varied company of autumn flowers as are gathered here in the space of half an acre, between the marshy osier-bed and the dry chalk-pit.

The great blue salvia (*Salvia patens*) is not uncommon as a bedding-plant in our gardens, and its splendid azure blossoms are a noble adornment to autumnal borders. But it is only in the west that it can be treated as a hardy herbaceous plant. There is one under the window of my bedroom which has never failed us during eighteen years, though it has

never received the slightest protection. This salvia possesses a beautiful mechanism to secure cross-fertilisation. Insert a stem of grass or a hairpin between the lips of the flower, and push it gently down the throat, and you will see the long stamens move down from the upper lobe of the corolla so as to deposit ripe pollen on the back of the supposed insect visitor. The honey glands lie far down at the base of the pistil, and our bumble-bees find it very difficult to reach it, for they are corpulent, and the passage is narrow. In Mexico, the native country of this plant, no doubt it is visited either by some insect of slenderer build or by humming-birds. But if our bumble-bees have no waists to speak of, they have brains; and they have discovered the trick of biting through the neck of the flower, opposite the honey store, and sucking it without further trouble. Some years ago a new industry sprang up in Buckinghamshire. Lads were sent to collect bumble-bees alive, for which they received fourpence a-piece. Nobody could guess what these were wanted for, till it came out that the bees were intended for exportation to New Zealand, where red clover always died out for want of bumbles to fertilise it. The first cargo died of

heat in crossing the tropics, but a second consignment fared better, and acclimatisation is said to have been successfully carried out. Now if the blue salvia had any agricultural value with us, we should have to import its suitable insect visitor, seeing that our crafty bumbles have learnt how to steal honey without disturbing the pollen cells. It is a curious fact that this trick is not universally known among the bees. In some gardens all the blossoms will be found to have their throats cut—in others, none. I ought to add that I attribute this burglary to bumble-bees without having detected one in the act of committing it, but I have watched them treating the long spurs of toadflax in the same way.

LXVII

A Buckinghamshire Ballad

Talking of Buckinghamshire brings to mind a lay which I used to hear chanted when I was a boy, and am never likely to hear again. It went to a sleepy kind of tune, and was a great favourite in wayside taverns in the long cool evenings.

'THE SAD STORY OF WILLIAM SMAIL

''Twere in the woods o' Bookenhamshire,
Right-fal-ooral-ooral-ee,
'Twere in the woods o' Bookenhamshire,
Right-fal-ooral-ee,

Three keepers' housen stood three-square,
About a mile from each other they were,
Ordained were they to keep the deer,
Right-fal-ooral-ee.

'There was three lads o' cunnin' an' skill,
Right-fal-ooral-ooral-ee,
There was three lads o' cunnin' an' skill,
Right-fal-ooral-ee,
And they swore as how they'd have their will
Upon the deer in Butson's Hill,
Right-fal-ooral-ee.

'The night were dark, the wind were low,
Right-fal-ooral-ooral-ee,
The night were dark, the wind were low,
Right-fal-ooral-ee;
And these three lads full well did know
The tracks whereon the deer did go;
And they made a fat bouck cry "Hullo!"
Right-fal-ooral-ee.

'The yoongest of them were Bill Smail,
Right-fal-ooral-ooral-ee,
The yoongest of them were Bill Smail,
Right-fal-ooral-ee;
And just as he hopped o'er the pale
The keeper he cotched 'un without fail,
And carried 'un off to Bookenham jail.
Right-fal-ooral-ee.

'Now Sessions was o'er and 'Sizes near,
Right-fal-ooral-ooral-ee,
Now Sessions was o'er and 'Sizes near,
Right-fal-ooral-ee.

The keepers they did roundly swear
Bill were the lad as stole the deer.
Says he, 'My lord, I never were there!'
Right-fal-ooral-ee.

'Now William Smail in prison is placed,
Right-fal-ooral-ooral-ee,
Now William Smail in prison is placed,
Right-fal-ooral-ee;
And there he will not make a feast,
For bread and water will he taste,
For a matter o' six months at laste,
Right-fal-ooral-ee.

MORAL

'Now there's a moral in this tale,
Right-fal-ooral-ooral-ee,
Now there's a moral in this tale,
Right-fal-ooral-ee:
The law agin ye will prevail,
And you'll be cotched like William Smail,
And carried off to Bookenham jail,
Right-fal-ooral-ee.'

Now, I do not know how old this song may be, but it has all the best traits of ballad literature. The topography is as tersely set forth, the weather as scrupulously described, the leading characters sketched in as firmly, as they are in that splendid and undoubtedly ancient lay, 'Jamie Telfer o' the Fair Dodhead.' Depend upon it, if this bard had lived near the Debatable Land, and,

instead of mere deer-stealing, had for a theme the Border raiding, with its dash of chivalry and patriotism to gild the sordid business of it, he would have been the darling of Sir Walter Scott and Bishop Percy. He engages all our sympathies with unlucky Bill, who, as the 'yoongest of them,' was probably least to blame; still, one feels the propriety of ceasing, as soon as he is convicted, to speak of him familiarly as Bill; it is more than the exigencies of metre that causes him to be mentioned formally as William Smail. The moral, perhaps, is a trifle startling in its sweeping assumption of culpability in the audience; but then doubtless the poet *connaissait son monde.*

LXVIII

Insects and Hard Winters

The common belief that hard winters are beneficial to farmers and gardeners because of the destruction to insect life, has received a severe shock in 1895. The foregoing winter has been recorded authoritatively by the Royal Meteorological Society as the severest since 1814, the lowest temperature registered in England being 11 degrees below zero—43 degrees Fahrenheit of frost—yet all through the summer there

was an unusual abundance of butterflies, and Miss Ormerod reports officially that injurious insects show no signs of diminution in that season. The second or autumn hatches of butterflies was unusually great. The pretty blues were never more numerous on Hampshire downs than they were in 1895; whereas in 1896, after a winter of extraordinary mildness, they were remarkably scarce. In September of the former year, the brimstone, a rare insect in autumn, unique among British butterflies in the shape of its posterior wings, was flitting about the osier-bed above described, recalling the months of the spotted orchis and primrose; and peacocks and red admirals —pride of the shortening days—came out unusually early. In mid-August, too, appeared the forerun ners of a welcome visitation of the clouded yellow (*Colias edusa*) to Hampshire. This pretty fly, the swiftest on the wing of all British butterflies, generally comes in troops when it comes at all, but it is most capricious. It is more permanent in the southern counties than farther north, where many seasons pass without the occurrence of a single specimen; then suddenly, without apparent cause, as last in 1892, the whole island, as far as Inverness, is besprinkled with this bright and active butterfly.

It is pretty well accepted now that none of its chrysalides survive a British winter, and that the autumn broods are the offspring of parents drifted hither from the Continent by the east winds of spring.

LXIX

A Beautiful London Shrub

Any tree or shrub that will flower freely in London deserves to be mentioned with honour. At the present time (September 1895) there has been for some weeks a fine plant of the shrubby Hibiscus (*Althæa frutex* or *Hibiscus Syriacus*) in great beauty in one of the front gardens of Cheyne Walk, Chelsea. It is about six feet high, and its sprays are loaded with lovely white blossoms, each as large as a Shirley poppy, with a blotch of deep maroon at the base of each petal. Its beauty is enhanced by contrast with the dark buildings around, and says as plain as print to passers-by, 'Householders please copy.' Unluckily, most householders, in the west end at least, have fled from London by this time.

LXX

The Extinction of Wild Animals

Company promotion, one would have said, had long since touched every corner of every field of enterprise, but it has been reserved for the autumn of 1895 to witness the launch of a scheme not likely to have many rivals. The arena of operations is South Africa, yet this project has nothing to do with mining, agriculture, or colonisation. It is not philanthropic either, but philozootic; its object being to preserve from extinction some of the nobler forms of life which are disappearing so fast before advancing civilisation. It is announced that the British South Africa Company have placed two hundred thousand acres in Mashonaland at the disposal of the Society for a big game preserve, as soon as they can show themselves in a financial position to enclose and maintain it. £15,000 are offered in £1 shares, and the names of those gentlemen who have joined the council are a sufficient guarantee that the money will be rightly applied.

In truth, it is a sorrowful story that comes to us from South Africa. The orgies of slaughter that finished off the magnificent herds of bison in North

America were more speedy in effect than the steady retreat of the South African fauna before the white settlers; but the total suppression of some of the most interesting species cannot be far off, unless our people follow the example of the United States Government in providing sanctuary for them. Already, it seems, that the great white rhinoceros is beyond recall; at most not more than half-a-dozen individuals survive of the mighty herds that Gordon Cumming encountered in the 'forties. It will be a lasting disgrace if the giraffe is allowed to perish in like manner, but this is imminent—at least south of the Zambesi. The mountain zebra may be found now only in the most remote mountain ranges; while the bontebok, the blesbok, and the black wildbeest, all of which Gordon Cumming found in countless hordes fifty years ago in what is now the Orange Free State, must be reckoned at this day at a few scores each. They have been ruthlessly massacred for their skins. Of the queerly-shaped bontebok, travellers used to stand amazed at the prodigious multitude within a relatively small strip of country; now, none are left but one small herd, preserved near Cape Agulhas by two Dutch families named Van Breda and Van der Byl.

The Society for the Protection of Birds appeal to similar sympathies to those which the Company above referred to rely on to bring them shareholders. In a recent leaflet this excellent Society deals with that fashion in ladies' bonnets which makes the wearing of bird-of-Paradise plumes indispensable. These are commonly mixed with so-called 'ospreys,' which are really the bridal dress of two species of white heron. The iniquity of the traffic in 'ospreys' has been shown to rest on the fact that these coveted plumes are only displayed at the breeding season; indeed, they are not fully developed on the parent birds till the young ones are hatched. Hence the nesting colonies have to be attacked at the very season when humanity should decree protection to beautiful and harmless birds. Grievous is the description by eye-witnesses of the collection of these plumes; rough fellows make a raid on the heronry, shooting down the old birds, tearing out the plumes, and flinging aside their victims, often still alive, to perish miserably in sight of their starving broods. The heartlessness of fashion arises from its ignorance; few ladies trouble themselves to inquire about the source where these favourite ornaments are obtained, being content to be told that it is in the

very last mode; but still fewer, I firmly believe, would countenance it, did they once understand what the traffic involved.

As to birds-of-Paradise, the best skins used to be had easily for twelve or fourteen shillings; but the price has risen now to twenty-five or thirty shillings, owing to the growing scarcity of the birds. The most coveted species (*Paradisea apoda*) dwells in New Guinea and the Papuan Islands; but it is impossible to obtain such fine specimens as were common a few years ago, because the males are all killed for the market before they reach the age of three or four years, when their plumage attains perfection. The German Government have set us a good example by decreeing the strict preservation of the bird-of-Paradise in their territory in New Guinea; perhaps it is too much to hope that the British and Dutch Governments will follow suit.

In making appeals for mercy to be shown towards dwindling races of creatures, it is insincere to base them on the grounds of the sacredness of animal life. Let us be perfectly honest in this matter, and explain that the real reason for keeping strange or beautiful animals in existence is solely and simply that this world may lose nothing that amuses or

interests us who have to live in it. Nothing can be worse than the example set by Nature herself in the matter of reverence for life, whether it be in noble or humble organisms. Tens of thousands of mammoths must have perished simultaneously by a widespread murrain, catastrophe, or meteorological crisis, to account for the abundance of their remains in Northern Europe; the end of the great auk was precipitated by the collapse of their last breeding station into the ocean; and as for the insect world, no one can have passed beyond the threshold of inquiry into that without being horrified by the systematic cruelty practised by one species upon another. Cruelty apart, the wastefulness is appalling. Out of sixteen to twenty-five thousand larvæ hatched from the eggs of a single oil beetle (*Meloe*) during an ordinary season, perhaps not more than three or four attain the perfect form. All the rest perish, and are intended to perish, victims to vicissitudes which are part of the deliberate design of their life-history. It is true that the precaution to secure the perpetuation of every species are infinite and astonishing; but it is part of the plan that the Destroyer of delights and Sunderer of companies should be at work incessantly.

LXXI

In a Deer Forest

Blessed—for ever blessed, even to the third and fourth generation of quill-drivers—be the wight who invented the fountain pen! I suppose every scribe uses one now, just as naturally as every sportsman his breechloader. Yet am I assuredly the first to wield one in this particular spot, for I am lying (September 28, 1895) among acres of boulders on the top of Beinn Eibhinn—'the beautiful hill'—3700 feet above the sea-level, in Corrour forest. In spite, however, of the facilities of the fountain pen, I shall have to make a fair copy of this before it goes to the printer, for it is blowing three-quarters of a gale, and is very dark.

It is passing cold withal, and it may be asked why I choose to write within a wet cloud, seeing that a couple of hundred feet below all is sunshine and soft air. From time to time I get glimpses through the gloom of Strath Ossian, bathed in golden light, with Loch Gulbhainn like a clasp of frosted silver, and Gulbhainn Water winding like a chain to join the distant Spean. Well, I am compelled to lie shivering here for an indefinite time to come, for on either hand are deer; one lot easily to be approached, but containing nothing worth a bullet;

the other, with several praiseworthy stags, feeding very slowly to ground where it may be possible to get a shot at them. Meanwhile, there is plenty of company. Ptarmigan are purring, growling, and chuckling within forty yards of my lair; a blue hare (not really more blue than Buckingham Palace in a fog) lobs slowly past and disappears in the mist; two or three golden plover signal to each other in heartbroken notes; and a raven flaps heavily along the hill-brow, coarsely croaking. There is nothing very cheerful except the ptarmigan, and heaven only knows how these jolly birds keep up their spirits. They are very showy just now in silver grey coats and white facings, intermediate between summer and winter plumage. There is no eagle on the hill to-day, or even they would not be so lively.

It is a marvel how these fine birds make out a living. The hill-top is like a rough sea-beach at low tide, nearly all stones, and between them only a carpet of weather-wan moss, a few crowberry plants, alchemilla, saxifrage, stag's horn, and scattered blades of wiry grass. We are far above the heather line here; even at midsummer there must be precious little to eat, except the delicious cloudberries, and the finger of winter has seared the vegetation already. Yet

the ptarmigan never think of going to fatter fields; they are always plump and contented. How comes it that, although English plains, with all their wealth of seed, produce no game-bird bigger than a partridge (pheasants being an importation), these awful wastes are peopled by fowl so much bigger?

But life in high regions is full of interesting puzzles. Wheresoever the carcase is, there the bird called 'eagles' in the text will be found gathered together; but what do they when there is no carcase? Last year a stag was shot one morning on Beinn Bhreac (2971 feet), a hill not very far from that on which I am lying. It was gralloched, and left till the afternoon, when the carcase was found to be covered —literary darkened—with clouds of blowflies, while the paunch and entrails a few yards off were swarming with yellow dungflies. Yet not one of these had been visible till something was provided worthy of their attention.

There are several highest inhabited houses both in Scotland and England, about as many, it has been calculated, as, if put together, would reach half the length of Pont Street; but the lodge in this forest beats them all, being 1725 feet (O.M.) above sea-level; too high for the potato, though that pro-

duces a fair crop at the head stalker's house, which is 500 feet lower. In fine weather, when the inmates are all abroad, and the doors and windows stand invitingly open, unexpected guests sometimes make free of the premises. A young lady, entering the smoking-room one day when the sportsmen were out, heard a scuffle under the sofa. Believing it to be one of the dogs, she looked to see which it was, and found a grouse, which had made its way in from the moor. On another occasion, a blue hare was found strolling about the passages.

It is a mighty solitude this, just on the water-shed of Rannoch. The streams flowing west and north find their way into Loch Linnhe, while those turning eastward go to swell the Tummel and the Tay. There is a foot and bridle path through the forest, giving access from Rannoch to Glen Spean and Fort William by the shores of Loch Treig; but that is even more deserted than of yore since the making of the West Highland Railway. But one sees some odd things here occasionally. Early one September morning lately (1896) I was riding along Loch Ossian on my way to the hill where I was to stalk. There is a shred of old woodland beside that fair lake; the firs have all disappeared, but there remain

birch, rowan, and alder along a couple of miles of steep hillside. It was a divine morning; the slanting rays lit up the golden spray of the birches and the intense crimson of the rowan leaves, and through these gleamed the pale azure of the lake. Grouse-cocks crowed crousely beside the track; the early mists wreathed themselves fantastically around Beinn-na-Lap; it was all so lovely that I could not but loiter, and the old pony picked his way as he pleased along the rough path. But my reverie was roughly broken by a violent shy on the part of the usually sedate animal. He might well be surprised. Lying beside the path, under the steep bank, was a tramp in a drunken sleep. Not considering myself under any obligation to disturb him, I gathered up my reins and passed on, as heartlessly as any Levite, speculating how the Devil had managed to put whisky in this poor waif's way in that wilderness, the nearest public-house being at Rannoch station, fully ten rough miles away. Somehow that tramp dwelt a good deal in my thoughts. He had a peculiarly long nose of intense fiery red; he was pretty comfortably dressed, and there was the painful contrast between his unlovely condition and the pure morning scenery. Moreover, I noticed as I

shuffled past that a book lay on the wet earth under his elbow.

When I returned that way at nightfall, the tramp had moved on, but he had left his book behind him. It was *Anne of Geierstein.*

October

LXXII

Stonecrops

All kinds of stonecrop possess peculiar attractions for bees and butterflies, owing to their abundant secretion of honey. Among the summer flowering species the crimson variety of *Sedum spurium* is the most showy, and should be planted plentifully near beehives. But at this season of the year one of the tall-growing kinds, *Sedum spectabile*, is by far the handsomest. It is the latest to flower, and its great flat rosy corymbs are irresistible to that splendid autumn butterfly, the red admiral. I have mentioned already how plentiful butterflies of various sorts have been this season (1895). Well, this morning I have been watching a number of these robust insects busy on the large stonecrop—so busy as to allow me to use a lens on them. There were no less than sixteen admirals at work on one group of *spectabile* stonecrop. The honey-bees, however, interfered with

them, and it was curious to see how shrewdly a red admiral would sheer off at the approach of a bee of less than one-tenth of his own bulk. Sometimes the butterfly was too much engaged sucking up sweets to pay attention at once; a quick run and an angry buzz from the bee awoke him to a sense of the situation, and he cleared off directly.

Now how do butterflies learn to dread a bee? How do they know that bees are armed? It can hardly be by experience, for no butterfly could survive the stab of a bee's sting. It is part of the mystery enveloping the intelligence of animals not personally educated by their parents. One can understand, or at least imagine, how birds and mammals, sedulous in attention to their offspring, can communicate to them caution, the fruit of the experience of countless generations; but the phases of insect life—the egg abandoned by the parent—the stages of larva, pupa, and imago—seem specially calculated to interfere with hereditary knowledge, and to prohibit the communication of instruction. Instinct is an obscure, as well as a much misused term; this avoidance of bees by butterflies seems to be an instance of pure instinct, unless, indeed, the countenance of a bee bears such a malevolent ex-

pression that it acts as a timely warning to the unarmed insect.

To return to stonecrops: let any one who desires to possess *Sedum spurium* and *spectabile* be careful to get the bright-coloured varieties of each. All are equally hardy, grow like chickweed, and are easily and quickly propagated by cuttings or 'pinchings'; but there are some worthless, dull-coloured varieties which should be avoided.

LXXIII

Bees and Donkeys

From bees to donkeys involves a long step in zoology, nor is it often that a donkey is such an ass as to interfere with bees; nevertheless, bees were lately (1895) the agents in producing one of two spectacles which, it used to be said, nobody had ever seen—a dead donkey or a dead postboy. At Culmalzie, in Wigtownshire, a young donkey got into a blacksmith's garden and overturned two hives. The evicted tenantry immediately swarmed over the unlucky animal and stung him to death. Its body swelled to an enormous size.

LXXIV

Cawdor Castle

One donkey, at least, has made itself famous in Scottish history. Probably no part of Scotland enjoys such a charming climate, year in and year out, as the broad wedge of champaign lying between where Findhorn, on the east, rolls his dark flood from the Monadh Lia, and, on the west, the miniature salmon-river Nairn hurries to the Moray Firth. The mild, yet bright and bracing air, is such as those who have not proved the merits of Nairn as a sanatorium can scarcely reconcile with the latitude. This fertile strath, lying between the brown front of Carn-nan-tri-tighearnan, or the Hill of the Three Lords, and the sea, was of old the choicest part of the Thanedom of Cawdor. The Thane's seat used to be at Nairn—or Invernarne, as it used to be called—and his hunting seat was some five miles inland, at Old Cawdor. But after the fall of the Douglases in 1455, including Archibald Bell-the-Cat—*pretensus comes Moravie*—Thane William resolved to build himself a stronghold worthy of his dignity and wide possessions. Being of thrifty habits, he first sat down and counted the cost, and then collected the

funds in hard cash. Next—so the story goes—he was directed in a dream to bind the treasure on the back of an ass, turn the animal loose at Old Cawdor, and found his castle wheresoever it should lie down. The beast wandered about half a mile, to a knoll beside the Rierach Burn, whereon grew three hawthorns; it rubbed its nose against the first, its tail against the second, and finally lay down under the third. Round this tree was built the castle keep; and there, to the everlasting confusion of sceptics in oneiromancy, remains the old stem to this day, dry and dead, of course, but still firmly rooted in the floor, and built into the root of the vault. At its foot lies the coffer which contained the treasure, heavily hooped with iron, and not a whit the worse for the four centuries and a half since it was unbound from the donkey's back. It is said that the other two thorn-trees disappeared only during the present century. The royal licence for building the castle is dated 1454, a date which rather clashes with the legend that makes one of the rooms in the keep the scene of the murder of King Duncan by Macbeth. In the following year, King James II. issued a warrant empowering the Thane to dismantle the Norman fortress of Lochindorb,

which Archibald Douglas had fortified against the king. The iron door now hanging on the keep of Cawdor came from Lochindorb, borne thither, as you will be gravely told, across the moors on the back of a Highland Samson, a statement fully as credible as many others in Celtic history.

The presence of the essentially Saxon title of 'thane' in a district so thoroughly Highland in character is explained by the policy of Malcolm Canmore, an ardent reformer, who greatly encouraged the settlement of southern lords within his dominions. The prelude to the civilisation of this district was the abolition by royal edict of the Gaelic *toiseach*, and the substitution of thanes, charged with the collection of Crown rents and the administration of justice in the great grain-producing region of Angus and Moray.

By far the greater part of the massive pile now known as Cawdor Castle dates from the seventeenth century. Long before that, the Thanage had passed by marriage into the Campbell family, where it still remains. William, eldest son of the seventh Thane, was lame, so they made a priest of him. His younger brother, John, married Isabel Ross of Kil-

ravock, and died, leaving as his sole heiress a daughter, Muriel. The old Thane and John's four brothers ill might brook their vast inheritance passing to a girl, and so, by marriage, into another family. They did what in them lay; they nobly tried to disprove Muriel's legitimacy, but in vain; and about the year 1510, she, being then twelve years old, married Sir John Campbell, son of the second Earl of Argyll. Fourth in descent from these came John Campbell of Cawdor, a lunatic, to whom his brother Colin was appointed tutor-at-law, to administer the estates.

This Colin, having determined to build a large addition to the castle, set about it in a very amateurish way, employing no regular architect, and working without any regular plan. The contract made in October 1639 with the brothers Nicholson, 'meassounes' (masons) in Nairn, is refreshingly vague; they are to 'bvild upe and ovtred (clear out) the entrie yet (entrance gate) just vpone the lewelling of the rest of the sydwallis (side walls), withe ane licht (window) to the east and ane tother licht quher the saidis meassounes can best haue the samen.' But it was stipulated that 'the armes, names, and siferis (cyphers) vpone the windocks

(windows) sal be weill and sufficientlie wrocht to the said Coleine Campbell, his contentment.'

Colin's confidence in the 'meassounes' was not misplaced: the work is rough, but substantial; the general effect is very grand; and the 'entrie yet,' where the drawbridge still swings between two circular towers, is so fine that one is tempted to wish for the removal of four huge wych elms that have been allowed to grow up in the moat, obscuring the view of the north face of the building. Colin's son, Sir Hugh, succeeded his uncle the lunatic, and built the south part of the edifice as it now stands, and as it appears in Billings's well-known engraving. This Thane was an industrious correspondent, and some of his letters contain vivid pictures of the vicissitudes of Highland life in the seventeenth century. Thus in June 1691 the following:—

'There came two or three parties off Hielanders, one of them caryed away a great many cattell out of Aitnoch. . . . The partie was strong, betwixt fiftie and three score. . . . The nixt partie fell vpon my lands in the more and in the breas (the moor and braes) off Altherg, when I wass at Inshoch, and caryed such cattel as they found quit away: about thirtie head and four piece of horss. . . . The third partie fell upon my lands of Boath, but then I was at home

and sent my sone Archie and the lightest lads I hade after them. They were overtaken in the breas of Strathherrick and brought back. One of their boyes was likewayes catcht and brought prisner. And just as this letter is a writting, I have advertisement from severall friends off the brea of Strathnairn that ther is a partie off five or six score Lochabber men past by with them, who is like may make ane onset this night somewher in our breas. If we knew wher, we would endeavour to buckle a touch with them.'

These light-footed Camerons of Lochaber were ever the sworn scourges of the prosperous Campbells; and such were the diversions of a country gentleman two hundred years ago. As for the ladies, edifying literature was provided for such of them as had learning; for Sir Hugh himself was rather bookish, and the author of *An Essay on the Lord's Prayer*, published in 1704. The 'Inventar of Lady Calder her Books' reveals nothing more trivial than *The Book of Palmistry*, *The Art of Complaisance*, and Ruthven's *Ladies' Cabinet Enlarged*; the bulk of it being made up with such exhilarating matter as *Sighs from Hell*, *Balm of Gilead*, and Calamy's *Divine Meditation*.

Sir Hugh paid his tailor punctually; and it is to be noted that in all the many bills for clothes, there is not a single instance of tartan or Highland dress.

4 ells black fingrum at £9, 15s. . . .	£3	0
½ ell fine dito for canons to your breeches . .	0	15
10½ doz. fine black Inglis buttonis . . .	3	3
4½ ells fine vermilion for a wescoat at 32s. the ell,	24	0
1 black Inglis hatt.	15	12

—and so on (it is Scots money—a pound being about equal to one shilling sterling), but of philabegs, plaids, sporrans, and Highland brooches, there is no mention in the equipment of this most Highland magnate.

There is a noble view to the north from the top of Cawdor tower, right across the level carse to the Moray Firth, and beyond, where Ben Wyvis and the Strathconan range gleam with the first snow of October.

LXXV

The Findhorn and the Nairn

Hardly could greater contrast be found between two rivers running so near one another as there is between those on either side of Cawdor.

The Findhorn, dark and powerful, flowing through stupendous gorges where inaccessible crags rise on either side or on both sides, is the very ideal of a wild salmon river. It *ought* to be second to none in the north; sad it is to say that it holds a

very poor reputation among anglers. Not very far above the tideway a flat-bedded rock stretches crescent-wise across the river-bed, offering an obstacle practicable to ascending fish only at certain heights of water. Below this rock salmon congregate, waiting for a flood to carry them up; here the nets are plied incessantly, and it is seldom that any large number escape to the upper reaches. Nevertheless, being lately at the shooting lodge of Drynachan, on the Findhorn, I started with very high hopes at the top of one of the most attractive stretches of salmon water I had ever beheld. My gillie was shy and taciturn; he gave me the idea of being sceptical about the presence of salmon in the river, and too completely soured by disappointment to encourage delusive hopes in others. He had not even suggestions to offer as to the sort of flies most likely to command success.

Left to my own judgment, I mounted a large Durham ranger, for the water was heavy and dark brown. Before I had made a dozen casts in the top of the fine sweeping stream at Ballycrochan, I was in a fish. There was plenty of room for him to make a grand fight, but the craven creature ran about in little circles under the point of the rod, and

soon yielded up the ghost—a brown fish of ten pounds. I hooked three others in the same pool, and landed two of them—fourteen pounds and ten pounds—all in little more than half-an-hour. Thinks I to myself, I'm in for a big thing. Six miles of beautiful water lay below me, without another rod on it, for the rest of the party were driving grouse. My fish were not beauties to be sure, for one was a red kipper, and the other two were dark baggits; but, after all, they were salmon, and I observed airily to my gillie that his back was likely to be sore before night. Still that sickly air of incredulity—I could have shaken the fellow!

I was to learn the meaning of it. Hour after hour I thrashed a series of the most enchanting pools and streams that fond fisher could imagine; darkness overtook us before we were half-way down to our limit, and one uncertain touch in the rapid run at Cuilachan was the only sign of a fish that was vouchsafed to me. Next day matters were worse. The river was in better order, but in the course of eight hours steady fishing I did not get a single rise.

That cured me of all hankering after the Findhorn. On the third morning early, I started across the hills for the Nairn, an insignificant stream com-

pared to the other great river, but of much higher merit, as it was my fortune to prove. Substituting a fifteen-foot grilse rod for the larger one I had been using, I mounted a small Dandy, and began where a swift clear stream ran swiftly between steep banks protected by a *chevaux-de-frise* of cut brushwood and tree-stems. Ah! that fatal brushwood: a bright little fish about eight pounds weight, dashed at the Dandy in mid-stream, and was fast. My gillie—still the same Lacon—gave no warning; I ought to have seen the danger, and run the salmon down to where the stream broadened out between shingle banks. But instead of that, I held on to him, being unwilling to let him down to disturb fresh water. Many a good fish has owed his liberty to this mistaken caution. There was, indeed, some excuse for it in this case, because, owing to the diminutive volume of the river, one passing down the high bank would be plainly visible to every creature below. But it cost me my first fish in the Nairn; he made a dart towards the bank under my feet; fouled the brushwood; for an agonised moment I beheld his silvery side flashing within easy reach of the gaff, but Lacon was not ready; the gut parted, and all was over.

I adopted different tactics after that, and on that day and the following enjoyed some of the prettiest sport that has ever fallen to my lot. The little pools were very unlike the tenantless casts on the Findhorn; they were teeming with salmon; and, what added greatly to the satisfaction of catching them, they were all bright and new-run, more like summer fish than any that might be expected in the first week of October.

LXXVI

A Border. Tower

Salmon fishing in a small, rapid stream, has a delicate charm that is lost when the river is so large as to involve fishing from a boat. All anglers are agreed about that, yet it is in the Tweed alone, of all the waters in these islands, that you can be sure of a proportion of excellent fish in October, many of them without tinge or tarnish on their silver coats. Even a month later, many fish carry a good enough colour, but it must be admitted that they are so far advanced in a gravid state that they ought to be let alone. However, as the nets have ruined the spring and summer fishing, anglers must be allowed a little licence in the autumn.

But the charm of Tweed fishing does not rest alone on the sport. Every hillside, every haugh, is associated with some story of Border chivalry, and is full of memories to one who takes the trouble to learn the simple lore. When Washington Irving first visited Abbotsford, and Scott took him to the top of the Delectable Mountains to view the wide-spread glory of Lammermuir, Torwoodlee, Ettrick and Teviotdale, he could hardly believe that this was the actual scene of enchantment.

'I gazed about me,' he wrote afterwards, 'for a time with mute surprise, I may almost say with disappointment. I beheld a mere succession of grey, waving hills, line beyond line, as far as my eye could reach, monotonous in their aspect, and so destitute of trees that one could almost see a stout fly walking along their outline; and the far-famed Tweed appeared a naked stream, between bare hills, without a tree or thicket on its banks. And yet such had been the magic web of poetry and romance thrown over the whole, that it had a greater charm for me than the richest scenery I had ever beheld in England.'

It is true that had we never been drunk of the cup of Scott's romance, the hills that tower so grandly in his lays might have remained for us but geological pimples, the vaunted merse but indifferently drained meadow ground, the grey peles of Smailholm and Earlstoun but inconvenient, rudely built

country-houses—*caruerunt quia vate sacro*; but nevermore shall one pass through this land indifferent to the apocalypse which dawned with the *Lay of the Last Minstrel*. Look round from where I am standing now, on Bemersyde hill, how familiarity has deepened tender reverence for such names as

> 'Ercildoune and Cowdenknowes
> Where Homes had ance commanding,
> And Drygrange with its milk-white ewes
> 'Twixt Tweed and Leader standing.
> The bird that flies through Redpath trees
> And Gladswood banks each morrow
> May chant and sing sweet Leader Haugh,
> And bonny howms o' Yarrow.'

In the last journey made by Walter Scott beside his beloved river, a deeply sorrowing procession passed close by the ancient tower of Bemersyde, following his remains to their resting-place in Dryburgh Abbey. In one respect this fortalice is distinguished among many scores of others built to protect the Scottish Marches—namely, that from the time when earliest mention of it occurs, it has remained in the possession of a single family. Seven centuries may be reckoned by an ice-age theorist but as a watch in a geological night; yet are there passing few lands held in Scotland at the present

day by the descendants of those who did fealty for them to Malcolm Canmore. The endurance of the Haigs of Bemersyde in their primitive home is the more remarkable because they have never been a powerful family, nor have they been careful to extend the originally modest acreage of their territory by judicious marriages. But it is theirs to boast of the prophetic charter bestowed by Thomas the Rhymer before the family of Haig had been a century in possession—

> 'Tyde what may betyde,
> Haig shall be Haig of Bemersyde.'[1]

Of the great feudal families of Tweeddale many have passed away—Avenel, de Soulis, and Maxwell, de Vipont, de Vesci and Comyn—either they have died out or acquired lands in other districts; the powerful religious houses also—the Austin Canons of Jedburgh, the Tironensian monks of Kelso, the Cistercians of Melrose, and the Premonstratensians of sweet Dryburgh—have disappeared long ago; but still Haig is Haig of Bemersyde.

[1] Less complimentary is the paraphrase on this distich applied to another Border family—

> 'Whate'er betide, whate'er befa',
> There 'll aye be gowks at Purves Ha'.

But if the race do not owe their preservation to its greatness, neither has it to thank its indolence or obscurity; its history is an epitome of the vicissitudes of landowners in a country constantly on the aggressive or defensive against a powerful neighbour. The fifth owner of Bemersyde fought under Wallace at Stirling Bridge; the sixth followed Bruce to Bannockburn, and afterwards met a soldier's death at Halidon Hill; the eighth laid down his life with the Douglas on the moonlight slopes of Otterbourne; the tenth was killed at Piperdean; the twelfth and thirteenth fought on opposite sides at Sauchieburn; the last mentioned, William Haig, fell with the flower of Scottish chivalry at Flodden in 1513. In those rare intervals when slaying was slack in their own country, the sons of the house sought soldier's fortune on the Continent. Young James Haig, an officer in garrison at Utrecht in 1626, writes home to his brother, begging for some decent clothes, and explaining that the dilapidated state of his wardrobe interferes sorely against his promotion:—

'Zou sall take a view of my mother's lettar, where I intreited her ernestlie to send me over cloathes, in so much I doe expect a Collar of my colonell; and to that I be into ffashion I am ashamed to presoum in the samen. Wharby I entreit zou, my dear brother, to show her credit

in the samen; ffor gif scho doe not, I am undone, ffor I am all out of ffashione. Itt is agenst nattural ffavour toe mak me loss my owen ffortun ffor lacke of putting me in ffashion.'

The Haigs may have disdained dandyism, but they were not behind the 'ffashioun' of the best Scottish families in occasional disdain of the law of the land. In 1535 Robert Haig was convicted of three separate acts of 'stouthrief and spulzie,' committed against his neighbours the Haliburtons of Mertoun; having, in the years 1519, 1521, and 1522, driven off horses, cattle, and sheep from their lands. Abduction, again, as students of family history must be aware, was a favourite pastime of country gentlemen of old, and in 1675 Anthony, laird of Bemersyde, shared in an exciting day's sport, assisting in carrying off Jean Home, heiress of Aytoun, and forcibly marrying her to 'a poor young boy, George Home, son to Kimmerghame.' Oddly enough, this same laird Anthony some years before had joined what Wodrow termed 'the abominable sect of the Quakers,' and remained attached to that body long enough to graft a new set of names on the family tree. His first six children were named Jacob, Zerubabel, Hannah, another Zerubabel, Lazarus, and Emmanuel; but the names of the three youngest betray

symptoms of backsliding—Hibernia, William, and Joan. Perhaps two years' imprisonment, which he suffered on account of his connection with the Quakers, sufficed to cool his zeal. Anthony's brother William, on the other hand, got into trouble from his association with Lord Balmerino, whose *Supplication against Parliamentary Bishops* was the subject of an indictment, drawn up by the Lord Advocate of the day. This last is a fine sample of legal Billingsgate, the Supplication being described as a 'scandalous, reproachful, odious, infamous, and seditious libel, most despitefully belched and vomited forth,' and all the King's good subjects are exhorted 'to crush the cockatrice in the egg, and to abhor it as a pestilential clout.'

Measured by the change in manners and customs, the distance from the day when the first Haig established his homestead on the bold bluff between Leaderfoot and Dryburgh seems even greater than when it is reckoned by centuries. It is a grim gratification, in these days when agitators rage and parish councils imagine a vain thing, to read the signature of Petrus del Hage attached to the instrument whereby Richard de Morville, Constable of Scotland, sold to Henry St. Clair, in 1166, the

persons of Edmund the son of Bonda, and Gillemichel his brother, and their sons and daughters, and all their future progeny, for the sum of three merks (40s).

The landscape has altered not less than the ways of men. The uplands of Tweed and Yarrow, of which the nakedness impressed Washington Irving so unfavourably, were then almost unbroken woodland.

> 'The King was cumand thro' Caddonford,
> And full five thousand men was he;
> They saw the derke foreste them before,
> They thought it awsome fer to see.'

Nothing more 'awsome' is now to be seen than the thriving plantations round the quiet seats of country gentlemen, and all that remains of the 'derke foreste' is here a birken shaw in a hill glen, and there a few crouching oaks and scattered pines, as on the Gateheugh cliffs opposite Old Melrose. But the 'Covin Tree,' a huge Spanish chestnut, still stands between the tower and the ancient 'pleuse' or pleasure-ground. Standing on this bright morning beneath its canopy of autumn gold, I look across the valley to conscious Eildon, triply cleft, and then pass along the narrow paved way down

which so many generations of Haigs have been carried to burial in St. Mary's aisle of Dryburgh.

Still, as of yore, broad Tweed fills the sloping woods with gentle sound; still the salmon return year after year, to linger among the loops and bends between the Monk's Ford and Gladswood. But, with the people, the tables are turned. Once it behoved every Scot to keep a good grip of his gear, and to hold his neighbours and tenants ready to spring to the saddle at short notice, unless he would have his cattle driven off by 'our auld enemies of England.' But the golden tide sets northward now, and what used to be reckoned an earl's ransom is paid willingly by many a Southerner for the right of fishing a mile or so of this famous stream, whereby muckle and welcome siller comes among the worthy dwellers on its banks; which condition of things doth mightily content those who own chartered fishings, and they are not to blame if the chief interest the wayfarer feels in them and their country has its source in a social state, to return to which would bring much discomfort to all of us.

LXXVII

Chief among the salmon casts in the Bemersyde water is the Haly Wiel, or holy pool, so called, probably, because the monks of Dryburgh showed their discretion by annexing it. There is a tale of dread connected with it, in which the present laird of Bemersyde was one of the principal actors. I never see that honourable gentleman without paying him that tribute of silent respect which is due to one who has passed through an irremediable sorrow.

The Haly Wiel

Now, the Haly Wiel is a long pool, into which the Tweed, escaping from the unwonted turmoil of Gateheugh, rushes swiftly at right and, turning sharply to the left, sweeps placidly round a steep wooded cliff on the right bank. The channel is full of great stones, among which the good fish harbour, and approach is made to them by dropping a boat quietly down along the wooded side of the cliff. Here, in the gloaming of a November short day, the laird was angling some years ago, and just as his fly was swinging over the Cradle Rock, the welcome pull came, and he was fast in a fish.

It was soon apparent that it was a fish of no

common size. It sailed about in a very independent way, resisting all persuasion to approach the land. The light was failing; it would soon be dark; and additional pressure was put on the fish to bring matters to an issue. This the salmon resented by dropping obstinately down stream, until it was clear of the Haly Wiel altogether, and in the broad, shallow water which intervenes between it and the Monk's Ford. Then matters became livelier. The fish began to run about, got tired, and allowed itself to be towed within reach of the net. For the first time the laird became aware of the monster's dimensions: the net, huge as Tweed landing-nets are, was too small to admit its head and shoulders. Three times the attempt was made, and failed as often. It was dark by this time, and difficult to distinguish shallow water from deep. In short, something went wrong—lamentably wrong; a little jerk—a feeble wallop in the water—and the line dangled limply from the rod, minus the fly.

'Well,' says the reader, 'where is the horrible part of all this? Every fisherman has lost the biggest fish he ever hooked. The laird was no worse off than others. He did not go and hang himself, I suppose.'

Not he; nevertheless the worst remains to be told. That very night there were poachers on the Monk's Ford; they secured the laird's lost fish, dead or dying in the shallow water, with the fly in its mouth and half a casting-line. It was too big to go into their sack, so the fellows cut it in half, and made off. But they, in turn, were taken by watchers —at least one of them was; and the half of the great fish which he was carrying weighed 35 lbs. Said I not well that such sorrow as the laird carries about with him is irremediable? The mightiest salmon that ever straightened a line in the water of Tweed!

November

LXXVIII

The Osprey

A PAIR of ospreys, interesting and noble birds now too seldom seen, remained for several days lately (1895) on the Tweed below Melrose. The osprey must have been a familiar object on that river once, but now, so nearly has the species been exterminated in this country, none of the boatmen knew what these birds were. It is a marvel how this pair escaped destruction, for they were by no means shy. I was not lucky enough to see them myself, but a boatman described how he had watched one of them sailing along the brow of the Gateheugh, whence poured out a swarm of vulgar jackdaws, chattering and scolding the gallant intruder. He paid little heed to them at first, but presently, getting bored by the clamour, just as a luckless daw passed beneath him, the osprey closed his pinions, and, falling on the black rascal, dealt it a blow which sent it whirling helpless into

the gulf below. This piece of discipline was enacted twice. I give this under all reserve, as the osprey would not strike anything but fish, except from pugnacity. I did not see these birds to identify them as ospreys, but the description given to me, of birds like large hawks, dark brown above and light-coloured below, hardly admits of any doubt as to what they were.

When Sir William Jardine wrote his notes to Wilson's *Birds of America*, he said that a pair or two of ospreys might be found about most of the Highland lakes, and he mentions Loch Lomond, Loch Awe, and the Lake of Menteith as regular stations. Later, in 1848, Charles St. John found several eyries in Sutherlandshire; indeed, some of the few unpleasant pages in his delightful books are taken up with description of how he and Dunbar shot several pairs of old birds in the breeding season. At the present day, it is believed, there are only two lochs in the Highlands where ospreys are permitted to rear their young. Of course it would not be safe to mention these, but I have the satisfaction of recording that on one of them, well known to me, where there has been an eyrie from time immemorial, this year (1896), for the first time in

living memory, there were two eyries, and two broods safely hatched.

Some years ago, about 1887, I was able to verify Jardine's statement that if one of a pair of ospreys is shot, the other will soon bring a new mate to the eyrie. But the difficulty of replacing a lost mate in Scotland has been vastly enhanced since Jardine's day. One of the pair on the loch referred to was shot just before the breeding season. The disconsolate mate remained there a few days and then flew off. The following spring the old home was untenanted, but in the third year a pair were in full occupation once more. They are now strictly protected, and as their eyrie is on an island in the heart of a deer forest, they do not run much risk of disturbance. One cannot repeat too often the appeal on behalf of fine birds, for, however unrelenting man may be in his persecution of rare animals, and jealous of his assumed monopoly over common ones, here and there an ear will hear, and certainly there are more people interested in the matter than there were a few years ago.[1]

[1] At the very moment that these notes are being knocked into shape for the printer, news comes of an osprey being sent into Inverness from Moy Hall, the seat of the Mackintosh (August 18, 1896). No doubt that this was one of the young hatched in the

It is a stirring sight to see the dauntless way the osprey seizes his prey, dropping like a levin-bolt from mid-air into the water, and grasping the fish lengthways, parallel with the bird's own body, with strong hooked claws. Human artifices of nets and hooks and endless apparatus, seem contemptible compared with such chivalrous warfare.

LXXIX

The Ruthwell Cross

Space, light, and cool still air, with mingled odours from the brine and the new ploughing. Low in the southern sky wheels the November sun, flashing miles of wet sand into dazzling radiance, and silvering the placid waters of Solway. High on the west, beyond the Nith, rises the granite bulk of Criffel; on the hither side of the river, some five or six miles from where I stand, loom the dark towers of Caerlaverock, ruined and roofless now, and dozing in decrepitude among their ancient trees, but once the centre of military stir—the chief defence of the western Scottish

present season in the Highlands. From the same source comes the melancholy intelligence of the following victims to wanton persecution in the same season: a Greenland falcon, from Portree Skye; a snowy owl from Forsinard; a night-heron from Barra a roller from East Lothian, and a hoopoe from Stirlingshire.

Border. Its lords were chiefs of the once powerful clan of Maxwells, and the hill on the north side of the castle gave its name as their slogan—'Wardlaw! bide Wardlaw!' Yonder to the south, beyond the wide firth, the Cumberland hills — Skiddaw and Saddleback—whitened with their first snow, show pale, but clear; paler and less clear, because of the smoke-drifts from Whitehaven and Workington, may be traced farther to the west the clustering summits of the Isle of Man. On the east, the eye rests on a truncated green cone, conspicuous over the gentle elevations of the plain, as Carlyle exultingly tells Goethe in one of his letters. This is Birrenswark, a much fortified and oft contested stronghold—Trimontium of Roman generals, who thus rendered the Celtic name *treamh monaidh*, the village on the hill. To the north the view is contracted by the deep woodland encircling the massive keep of Comlongan, still in the possession of the Murrays.

But in this land—lying on the very highway of English invasion—let the eye once begin to wander, and memories rise thick and fast from every hill and hamlet, every tower and river. For the present, I want to talk only of the humble little kirk among

the leafless ash-trees close at hand. Ruthwell (you must pronounce it *Rivvel* if you would have people understand you) is associated for ever with the comical, as well as with the romantic side of archæology. The name reminds us how far incautious disciples of Monkbarns may go astray, but also how surely scientific system will prevail in the end.

In spite of the deplorable zeal with which Scottish reformers of the sixteenth century had carried out the defacement or demolition of memorials of the old religion, there remained until 1642, within the parish kirk of Ruthwell, a lofty cross of stone, slender, richly carved in every part, and bearing inscriptions in Runic and Roman characters. In that year the General Assembly suddenly awoke to the scandal of permitting this monument of idolatry to exist, and decreed its immediate destruction. But the Westlan' Whigs had bowels, even in matters of religion; the cross was cast down indeed, and its shapely shaft and nimbed head were broken into several pieces; but it was suffered to remain in the church, where Pennant viewed it one hundred and thirty years later, in 1772. Subsequently, even that remnant of reverence was withdrawn, and the broken cross was thrown out into the kirkyard, where wind,

weather, and wanton mischief began to do their work on it, until, by a happy disposition of lay patronage, Dr. Duncan, the father of savings banks, was appointed to the parish, and, having views beyond the Shorter Catechism, rescued the fragments, pieced them together, and set them up in the manse garden. There the venerable cross stood till, five or six years ago, some local antiquaries (may their names for ever live in story !) concerned themselves to get the relic put under shelter, and collected funds for the purpose. The result has been that it now stands safely within the ugly little parish church. Now, a sculptured cross, seventeen feet high, set in a Presbyterian place of worship to be honoured of all men, supplies a commentary on Scottish ecclesiastical history almost as pungent as did the recent restoration of one of the side chapels in St. Giles' of Edinburgh in memory of Montrose.

There remains to be told how, before all this happened, the wise men interpreted the Runic inscription. Good Dr. Duncan made careful drawings of the cross, which remain unto this day a monument of his fidelity, with only one slight, but pregnant exception. The worthy man, knowing nothing about Runes, copied that part of the inscription

which is in those characters, with rigid accuracy; but when it came to transcribing Latin—marry! he was at home there, and in order to carry out his interpretation thereof, in reconstructing the cross he fitted into the Runic characters a few words of his own in Roman, with doleful results, as will presently be shown.

Next came Mr. Thornleif Repp, an Icelandic scholar of renown, to whom Runes were, literally, A B C. Assuming, as was most reasonable, that the language was Old Norse, he interpreted the inscription faultlessly, unfolding a really thrilling narrative. It was a plain statement how 'a vessel of Christ, of eleven pounds weight, with ornaments, made by the Therfusian fathers, was given in expiation for the devastation of Ashlafardhal,' *i.e.* the vale of Ashlafr. As if to put the translation beyond all doubt, 'there is preserved,' says the *New Statistical Account of Dumfriesshire*, 'along with the column, an ornamental circular stone,' no doubt the 'vessel of Christ,' or baptismal font alluded to. Great was the throwing up of hats in antiquarian circles at this easy reading of the riddle by the erudite Repp. Nobody, it is true, had ever heard of the Therfusian fathers; but there were plenty of places in broad

Scotland which could easily be identified with Ashlafardhal, the only difficulty was to decide upon which. But the jealousy of girls is as milk and honey compared to the rivalry of philologers, and here is Professor Finn Magnusen comes me cranking in, pronouncing Repp a reprobate, and giving a totally different rendering to the Runes. He agrees, truly, that the language is Old Norse; no one with any reputation to lose could question that; but he shows that what is commemorated is not a 'devastation' at all, but a marriage! Moreover, deceived by the Roman characters inserted among the Runes by Dr. Duncan, he pronounced the 'Therfusian fathers' to exist only in the diseased imagination of the despicable Repp, and that these words really meant—'Ofa, the descendant of Toda, caused it (the stone) to be cut.'

There was a bit of a stir, not altogether harmonious, among those who had been so effusively grateful to Repp; but, in time, unanimity was restored by adopting the reading of Magnusen.

But there are always some people with no reputation to lose, who never learn the wisdom of leaving things alone. Of these, was one Mr. John Kemble, a young student of Anglo-Saxon, to whom it occurred

in 1838 profanely to wonder why, seeing that the character of the cross was Saxon, the language of the inscription should be Norse. He set to work independently, and, assuming that the words were in Anglo-Saxon and none other, made out the legend to be a metrical soliloquy, supposed to be spoken *by the Cross itself.*

Over-curious Kemble! Forthwith there began a storm which raged for years between all the universities of Western Europe, and might be raging still, but for a little incident which occurred about five-and-thirty years ago. Somebody foraging among some Anglo-Saxon homilies preserved at Vercelli, near Milan, lighted upon a hymn entitled 'The Dream of the Holy Rood,' since then known as Cædmon's hymn. In this the Cross—the original Cross of Calvary—is supposed to address the sleeper. There are fifty-nine lines in all of this hymn, of which these following seventeen were found to correspond word for word with Kemble's rendering of the Ruthwell inscription:

'Then the young hero prepared himself,
Who was Almighty God;
Strong and firm of mood
He mounted the lofty cross
Courageously in the sight of many.

. . . . . .
I raised the puissant King,
The Lord of the Heavens ;
I dared not fall down.
. . . . . .
They reviled us both together,
I was all stained with blood,
Poured from the man's side.
. . . . . .
Christ was on the cross,
Yet, hither hastening,
Men came from afar
Unto the noble one.
I beheld all that,
With sorrow I was overwhelmed.
. . . . . .
I was all wounded with shafts ;
They laid Him down limb-weary ;
They stood at the head of the corpse ;
They beheld the Lord of Heaven.'

Thus, all controversy being laid to rest, the traveller may do worse than exchange the Pulman car for a local crawler at Carlisle, and, alighting at Ruthwell, inspect this beautiful relic of the Anglo-Saxon Church of Northumbria in the eighth century, and quaff a cup from the chalybeate spring, now called the Brow Well, but formerly the Rood Well, whence the parish derives its name.

LXXX

Driving to catch an early train one morning lately (1894), and taking a slight detour for the pleasure of passing along the shore of the lake sanctuary, I was rewarded by witnessing a beautiful scene of bird life. Old beeches, towers of russet gold among the surrounding snow, had showered down their harvest of sweet mast, thereby attracting a flock of wood-pigeons, a cock pheasant or two, and numbers of wild ducks. All were busily at work beneath the spreading boughs; on the approach of my dogcart, pigeons and ducks took wing together and flew across the track—a splendid show of fine feathers in the low, bright sunlight.

A Fine Display of Colour

LXXXI

It is not long since we of 'the leisured classes,' were sneering at bicyclists as 'cads upon castors'; at the present time some people reckon proficiency on wheels as essential to being in the mode. That is rather a drawback, in the view of quiet folk; but there is plenty of compensation; not the least part of which being the

Doune Castle

re-opening of deserted highways, and the re-visiting of scenes which must have been well known to travellers in the coaching days.

Such is the stretch of excellent Macadam lying between Stirling and Callander, traversing a district more thickly peopled with the past than many others; for though the traveller turn his back on Bannockburn, every step of the ground he crosses has been fought over times beyond reckoning by Pict and Briton, Roman and Gael, Highland cateran, and lowland Scot, Stuart and Guelph. But now these woods and crags, which have resounded so often to the battle-cry of the hill-men or bellowed with thunder of culverins, carthouns, basilisks, serpents, and other mediæval artillery, are shaken by no sound more vengeful than the scream of engines on the Caledonian railway.

Traversing the scene of Wallace's triumph over Cressingham and Surrey, and leaving the famous Abbey Craig on the right, the road crosses the level carse as far as the Bridge of Allan—the Thermæ of Stirling and Glasgow—where it climbs the ridge dividing Strathallan from the Carse of Menteith. As soon as you are clear of the woods of Keir, a splendid prospect opens before you, and you should

rest a while among a circle of huge stones, which mark the grave of some doughty doer of yore, on the right side of the way. There are certain standard landscapes which views of lesser note often bring to mind. This one recalls the scene from a little hill just outside Turin, much frequented by tourists. Instead of Mont Rosa, there is the shapely dome of Benledi; Stuc-ma-chrome takes the place of Il Gran Paradiso, which, as the Torinian vendor of bad field-glasses never wearies of testifying, *vous empêche de voir le grand Mont Blanc;* and far to the west, in place of the many crested Ligurian range, you have the Argyllshire hills clustering behind the cloven crest of Ben Lomond. But, instead of the level Lombard champaign, rich in vines, wheat and maize, the middle distance and foreground are made up of shining oat-stubbles and vivid turnips, among belts and clumps of wood, piebald with russet beech and rifle-green firs. In truth, on this brilliant autumn morning, with the Highland hills snow-clad half way down their sides, and the sky barred with no more than a few fleecy cloudlets, no Scotsman need shrink from a comparison between the two lands.

Two great buildings catch the eye—one, a couple of miles to the east, at the foot of the Ochil range,

is the Hydropathic Establishment of Dunblane, arrogantly new and square, dwarfing the old cathedral, which has of late been reverently, discreetly, and altogether rightly restored; the other, as far to the west, is Doune Castle, grey and timeworn, but gleaming to-day like a tarnished silvern clasp in the great girdle of woodland that lies about the feet of the Highland hills.

Murdoch, second Duke of Albany, who was to lose his head so soon as his master, James I., returned from captivity in England, signalised his Regency, from 1419 to 1424, by the erection of at least two notable strongholds, of which one is famed Tantallon and the other Doune. It was just the time when Scottish domestic or defensive architecture (for the terms are nearly synonymous in speaking of that age) moved forward from the plan of a simple keep, entered on the second floor by a moveable ladder, to the grander design of a continuous building surrounding a central court. The keep still remained an important feature, but the rooms in it increased in size; the inmates were no longer huddled into comfortless apartments where cooking, eating and sleeping went on simultaneously. Banqueting halls, chapels, visitor's suites and offices

were added, evidence of a growing desire for refinement, and of a revival from the extreme poverty of the fourteenth century, when the national exchequer and private resources had been drained to the lowest ebb, in the long struggle for Independence. Still, one is struck, even in a pile of the importance of Doune, by the vast inferiority of the workmanship, whether constructive or decorative, applied to Scottish domestic architecture of this date, to the magnificence of design and excellence of handiwork shown in contemporary ecclesiastical buildings.

Doune Castle was never finished; probably the works were interrupted by the execution of the unlucky Murdoch; still, the green promontory between the confluent streams of Teith and Ardoch bears a noble mass of masonry, enough to show the scale of the original design. Some of the rooms are of noble proportions. The common hall in the keep measures forty-four feet by twenty-six; but the banqueting-hall in the west wing, entered from the courtyard by an outside staircase, is sixty-eight feet long by twenty-seven wide, and once had an ornamental open roof. It was constructed with an eye to business as well as to beauty, for there is a serving-room handy, communicating with the great

vaulted kitchen through two arched openings. The arched entrance to the castle passes under the common hall in the keep, and the iron-grated doors still hang at the end of the portcullis.

When Albany laid down his life on the heading hill of Stirling, his splendid, half-built castle passed to the Crown, to which it was an important fortress, commanding as it did two of the principal passes into the Highlands. The beautiful Janet Kennedy, daughter of the second Lord Kennedy of Cassilis, was betrothed to Archibald 'Bell-the-Cat,' Earl of Angus, with whom to trifle required a cool head and a stout heart. She can have been deficient in neither, for she encouraged the addresses of that flower of chivalry, James IV., and, in fact, became his mistress. James, it will be remembered, was an exceedingly devout young man, and outlay on behalf of 'the lady,' as the fair Janet is discreetly termed in his household accounts, appears sandwiched with expenses on his frequent pilgrimages to St. Ninian's shrine at Whithorn and other religious exercises, as well as those incurred at golf and 'the tables.'

Bell-the-Cat had made over to his betrothed the lands of Braidwood and Crawford-Lindsay; these the pious king quietly annexed, on the plea that

Angus had conveyed them to Janet without the necessary royal licence; and when the lover claimed his bride without the lands, he was promptly imprisoned in Dunbarton Castle. His faithless love bore a son to her paramour, being then at Doune Castle, as shown by the following entry in the accounts:—

'Item.—ye xx day of December (1501) for viii elne small quhit (white) to be blancatis and wylycottis (blankets and petticoats) to ye barne (child) in Doun, ilk elne iis. viiid., *summa* xxiis viiid.'

This 'barne' lived to become James, Earl of Moray, and his mother was splendidly endowed with the lands and castle of Darnaway. But the King gave Doune to his consort, Margaret Tudor, who in turn passed it on to her third husband, Henry Stuart, from whom it has descended to the Earl of Moray, its present possessor.

The castle was greatly dilapidated in 1745, when Prince Charlie's white ensign floated over the keep; it will be remembered that Waverley was taken there after parting with the gifted Gilfillan. It was here also that John Home, the poet, was confined with other prisoners taken by the Jacobites at the battle of Falkirk. Six of them, including Home,

made good their escape by twisting their blankets into ropes. Four of them had descended in safety, when the rope snapped with the fifth. The sixth, Thomas Barrow, slipped to the broken end and let himself drop. He broke some ribs and sprained an ankle, nevertheless his comrades managed to carry him off in safety.

Doune is a place of sorrowful memories and blighted hopes, yet it has none of the sombre, inhospitable aspect of so many ruins in the north. Rather does it give the impression of a baronial palace, lying fair to the sun, wherein long trains of guests might be received and treated with rural abundance. The fine red wine of Beaugency, and good brown ale; while the courtyard rang with much strumming of jongleurs and jingling of spurs. Fair and far is the prospect from its ramparts over the deep oak woods of Blair Drummond, and beside it flows the Teith, one of the earliest salmon rivers in Scotland. The fish rightly prefer this lucid torrent, fed from the great lakes of Lubnaig and Vennachar, to the sluggish, peaty Forth, which joins it just above Stirling. The Teith, indeed, might be the Abana or Pharpar of anglers, but for two wicked impediments in the shape of cruive-

dykes, one just below Doune Castle, the other lower down, at Craigforth. When will Scottish lairds learn the lesson of the goose and the golden eggs? Cruive-caught salmon cannot bring the landlord as much as sixpence a pound; but there are plenty of people ready to pay many guineas for every salmon they may take with the fly.

LXXXII

Lapwings

Some County Councils, anxious to exercise their powers under the new Wild Birds Preservation Act, are concerning themselves about the diminution in some districts of the lapwing, peewit, or green plover, and have petitioned the Home Secretary to sanction the prohibition of the taking of plovers' eggs. As the author of the Act in question, I am naturally anxious that it should not be a dead letter; but, though nobody can be more alive to the merits of lapwings than myself, I should be sorry to see a stop put to the harmless rural industry of collecting the eggs, especially as that is not the way the mischief comes. Earlier in these notes it has been pointed out that all the lapwings reared in this country pass the winter farther south; while those that winter in

Britain are bred far to the north. The northern limit of lapwings in Britain passes just north of the Moray Firth; there are none in Caithness in December. It follows from this that no amount of egg-taking would affect the winter stock of lapwings in Britain. Moreover, the eggs taken are chiefly those of the first nest, generally laid on fallow or ploughed land, which the ordinary operations of sowing, harrowing, and rolling would destroy. The later eggs, laid among springing corn and grass, are pretty safe from wholesale molestation. But where County Councils might usefully interfere is to prevent the destruction of the birds themselves. Each year an increasing number of lapwings are exposed for sale in second and third-rate London poulterers' shops, no doubt to be palmed off on the customers of certain restaurants as golden plover. Though not absolutely unpalatable, they are very inferior to that succulent little bird, and it is easy to distinguish between them even without tasting, for whereas the lapwing has four toes, one behind, the golden plover has only three, all in front. It is unpardonable greed to devour both parents and eggs; we don't treat any other wild birds so voraciously; why should the lapwing be singled out for

peculiar persecution? It is shameful that, as may be witnessed any spring in London, adult lapwings and their eggs should be exposed for sale in the same shops at the same time; for of all fowls of the air, there is not one that works so incessantly and exclusively in the farmer's service as the pretty peewit. The diet of this bird is wholly of worms, insects, and molluscs, and it is simply indefatigable in clearing the land of these pests.

LXXXIII

Useful Birds

As yet, Great Britain compares favourably with every other Christian country in Europe in the abundance of bird life. I say Christian, because, as is well known, Mohammedans refrain scrupulously from molesting even such birds as we reckon vermin in this country; the interest of travelling through Turkey is much enhanced by the number and variety of feathered creatures in the woods, the fields, and even in the towns. In other countries, the growing scarcity of useful birds has attracted the attention of their respective legislatures. With Mr. Howard Saunders, I was appointed by the Board of Agriculture to attend the international conference invited by the French

Government to assemble in Paris in June 1895. Every European Government, except that of Turkey, was represented, and we found the greatest difficulty in persuading such of the delegates as had never visited England to believe in the abundance of bird life in our country.

Our existing legislation provides for most of the resolutions carried at the conference; but there is one point in which foreign nations invite our co-operation, which ought not to be difficult to carry out, namely, that we should prohibit the importation of birds scheduled as *utiles à l'agriculture*, and protected abroad. Why should the cultivated lands of Holland and Belgium be stripped of their feathered police, the lapwings, in order that Cockneys may eat them as golden plover?

December

LXXXIV

A GOOD deal has appeared in the public journals lately (1895) about the approaching extinction of noble or interesting animals before the advance of civilisation. Correspondents of the *Times* have concerned themselves about the rapid diminution of the African elephant, but the most suggestive paper I have seen on this subject is one in the *Spectator* for November 23d, entitled "The Rarer Furs," which contains a remarkable and attractive proposal. The increasing scarcity and costliness of sables, ermines, martens, chinchillas, and other small animals with superior fur, suggests the inquiry why these should not be bred on farms in Siberia and elsewhere. The sable is not less prolific than the common ferret; its fur is literally matchless, and the enormous price it fetches makes the idea of a sable farm not less a practical one than what has been carried out already with complete

Why not a Fur Farm?

success—namely, the profitable breeding of ostriches for their plumes. Sables are now (1895) 30 per cent. above the exorbitant price of last year, a single skin of the best Russian quality commanding as much as £45. As for silver foxes, the value of a litter of these to the happy owner may be estimated in light of the fact that last spring a single skin sold for £170. Furs, as the writer in the *Spectator* justly observes, add an exhilaration to the sense of warmth which no other material can impart; so if we allow the animals which produce them to be killed out, we shall not only be making wild nature poorer in variety, but be squandering a luxury which can never be restored.

Our native fauna, in spite of the influence of the Gulf Stream on our climate, is naturally rich in the production of fur. The marten still lingers in Wales; the death of one in that country was recorded in the *Field* of the same date as the *Spectator* article. Two were killed in Argyllshire in 1896, and, if I mistake not, it is not quite extinct in the English lake district. No animal is more easily reared in captivity; indeed, it is known that the marten used to be kept in English houses as a mouser before cats became common in this country.

The common stoat—the true ermine—is still tolerably plentiful with us; but south of the Tweed it seldom, or at least irregularly, assumes its beautiful snowy winter jacket. Ermine fur was so highly esteemed in the heyday of chivalry that its use was restricted by a statute of the Plantagenets to members of the royal family.

It would be an exceedingly interesting experiment for the owner of a deer-forest to enclose a piece of hillside for rearing sables, martens, ermines, and even silver foxes. Stalkers and gillies have plenty of spare time, except during two months in the year; the animals, if securely fenced (which would be the chief difficulty and expense), would require to be regularly fed with rabbits and blue hares, but would need little other attention, till they had multiplied sufficiently to be killed and skinned; and the enterprise might turn out in the end to be an exceedingly lucrative one.

LXXXV

Stoats and Weasels

The misdeeds of the stoat have damaged the character of its relative, the weasel, and it would be vain to try and persuade the average gamekeeper that this active little animal is, in

truth, far more beneficial than hurtful. Warm were the praises, in a small northern town well known to me, bestowed upon a cat for destroying a weasel which entered a house one night last month (1895). It does not appear that it occurred to anybody to speculate what business the weasel was after in the dwelling-house. Bad as is its reputation, it can hardly have been suspected of designs upon the inmates, or the tea-spoons, or the contents of the till. No; the weasel came for precisely the same reason that set Greymalkin on the prowl. It was after mice; for mice, rats, and young rabbits are the staple diet of this fine little beast of prey. Unluckily, nine people out of ten confound weasels with stoats. A hen pheasant killed on her nest, or a pullet sucked to death is set down as readily to the account of one of the Mustelidæ as to that of another. Besides the greater size of the stoat, it is easily distinguished from the weasel by the black brush at the end of the tail, which is wholly wanting in the smaller animal. The shepherds of Ettrick and Eskdale bore willing testimony before the Vole Plague Committee to the good service done by the weasels—'whittrets,' as they call them, *i.e.* white-throats—among the swarming voles.

It is a pretty sight to watch a brood of young stoats at play on a summer evening. The grace and swiftness of their movements remind one of fish rather than four-footed creatures; then, when they take alarm, off go the parents, with seven or eight young ones so close in their wake, jumping sideways over each others' backs, that the whole procession looks like a single animal threading its way through the herbage.

LXXXVI

A Memorable Gale

The storm which blew in the early morning of December 23, 1894, was probably the most severe while it lasted of any that have visited the west coast in living memory. Nobody who viewed our district can forget the desolation revealed by daylight. We did not lose so many trees, indeed, as in the great storm of December 1882, because we had not so many to lose. In that year the loss on Monreith estate came to about 25,000 trees (the Duke of Buccleuch reckoned his loss at 1,200,000); we afterwards counted about 7000 trees blown out by this latter storm. But the general damage done was far more appalling; my bill for re-roofing farmhouses stripped of their slates

came to more than £800. The lakes were full of rooks, blown from their roosts and drowned; the gardeners at Castle Kennedy collected more than 500 corpses out of the lake there, and for days afterwards the woods were full of dead and cripples, the latter having been dashed against the swaying branches and their wings broken.

But the most remarkable evidence of the force of the wind when the gale was at its height was shown on the beach the following day. A schooner was blown ashore just opposite our house, and some of us went down to see the wreck. The tide-line on the lee shore of Luce Bay was piled with masses of sea-ware, mingled with the dead cod and flat-fish, countless starfish, thousands of crabs, with chaffinches and other small land birds blown from the other side of the bay, twelve miles distant. All these may be seen after an unusually heavy gale, but, long as I have lived by the sea, I never before saw the bodies of lobsters among the slain. Of these, on this occasion, we picked up as many as we could carry, lying quite dead in the extent of not more than two hundred yards of beach. We took them home and proved their excellence on the table; disproving at the same time the cruel tradition that lobsters, in

order to take a fine scarlet when cooked, must be boiled alive. These lobsters were gathered after death, though still black, but when boiled they were as bright red as any that ever graced a ball supper. The only thing that preserved us from utter destruction in this gale, was, that it blew at its height for less than three-quarters of an hour. The destructive character of its predecessor in December 1882, was caused by the centre of the cyclone being arrested for a while over the Isle of Mull, just in the position which brought the north-west blow always the heaviest, prevailing in its posterior segment, to bear on the south-west coast of Scotland.

LXXXVII

Black-Game

Some complaints have been heard lately about the serious decrease in the numbers of black-game in Scotland, and no doubt there is good reason for the same; for black-game, being polygamous, like their near relative the pheasant, will not endure the same severe treatment which pairing game-birds survive. The mother-bird's moral sense seems to have deteriorated owing to the laxity of her connubial relations, for both hen

pheasants and grey-hens are notoriously bad nurses. Flush the grey-hen in July, and she will rise on her strong pinions and steam away over hill and glen, apparently without a thought of the helpless brood crouching in the heather. Did anybody ever see either hen-pheasant or grey-hen resort to that fond and common device of monogamous mother-birds—shamming cripples to divert attention from their young? I never did, and I question whether polygamous birds ever do so.

But in one respect the grey-hen differs very remarkably from the hen-pheasant. The cock-pheasant struts about in the nesting season followed by his dingy docile wives, and suffers no rival to approach his harem without doing battle. But blackcock are philosophic husbands; in the love-season they spend most of the day together, devoting an hour morning and evening to receive visits from the hens, which often have to fly miles from their intended nesting place to the flirting ground. During the hours not occupied in love-making, the cocks spend their time at the club, as it were—some sunny knoll, birchen grove, or meadow by the river, where a wary observer may watch them, drumming and strutting like turkey-cocks, dancing, and performing the most

grotesque antics for each other's delectation, but never, as I think, fighting.

Although black-game are diminishing in many places, there are plenty still on large estates, where the ground is suitable for them, such as Drumlanrig, in Nithsdale, and Cumloden, in the valley of Cree; and the seasons of 1895 and 1896 were both very favourable for them. They love the debateable ground between moorland and arable, and only want fair treatment to take care of themselves in such places. It is not likely that anybody will ever see again what I once saw within five-and-thirty miles of Charing Cross, namely, five grey-hens sitting together on a birch tree in the Hurt Wood, between Guildford and Dorking.

In the north, the letting of shootings has done more than anything else to make black-game scarce. Many unwilling landowners have been forced to do so by the depression in agriculture, and, though there are many shooting tenants who treat the ground in a sportsman-like way, there are others of course who, whether from ignorance or anxiety to get as much as they can for their money, are unduly severe on black-game. The worst offenders in this respect are those who rent a shooting for a single

season. Grey-hens are shot, often before the legitimate day, and immature poults pay the penalty of weak, heavy fliers. Indeed, had pheasants been treated in the same way without the aid of hand-rearing, they would have become extinct in this country long ago. The season for shooting black-game should be the same as that for pheasants; instead of beginning on August 20th, it should be deferred till October 1st, and instead of ending on December 10th, it should go on through January, when the cocks are in their finest plumage. Moreover, attempts should be made to replenish the stock of black-game by hand-rearing, which is much easier carried out with polygamous birds than with those which pair.

LXXXVIII

Capercailzie and Ptarmigan

While we are grieved to note the diminution in the numbers of black-game in some parts of this island (they are not found at all in Ireland) it is a pleasure to think that the other British members of the grouse tribe never were more abundant. Capercailzie are spreading steadily wherever suitable tracts of wood exist, and although they are of indifferent repute for the larder, the restoration of these splendid birds to our

native fauna, after a period of complete extinction, is matter of satisfaction to every lover of wild things. Attempts to restore ptarmigan to the hills of Galloway, whence they have disappeared within living memory, have not been successful so far, but there need be little doubt that perseverance would prevail with them, as it did in the case of capercailzie. A shepherd, who died two or three years ago, told me that he had last seen ptarmigan on the Merrick, a hill in Galloway of 2700 feet, in 1826. That year is still referred to in this district as 'the year of the short corn,' and my informant attributed the extinction of ptarmigan to the great drought that prevailed that summer. That may have proved the last straw, but no doubt the birds succumbed here, as on the Cumberland hills, to the improved style of fowling-piece. In the Highlands, ptarmigan are as numerous as ever, if not more so, because, as their chosen haunts are generally in a deer-forest, they are seldom molested by sportsmen. That the southern uplands are quite suitable for maintaining this lovely game-bird, let a manuscript of the seventeenth century, preserved in the Edinburgh Advocates' Library, testify:—

'In the remote parts of this great mountain (the Mer-

rick) are very large red deer ; and about the top thereof that fine bird called the Mountain Partridge, or, by the commonalty, the Tarmachan, about the size of a Red-cock, and the flesh much of the same nature ; feeds, as that bird doth, on the seeds of the bull-rush, and makes its protection in the chinks and hollow places of thick stones, from the insults of the eagles, which are in plenty, both the large gray and the black, about that mountain.'

The lonely top of Merrick presents the same aspect to-day as when these lines were penned, but red deer, eagles, and ptarmigan have been driven from their immemorial home. The eagles lingered longest; the 'black,' that is, the golden eagle, was known to breed on this range as late as 1839 ; and 'the large gray,' or white-tailed eagle, had its last eyrie here about 1862. No bird of ravin larger than the buzzard, or nobler than the peregrine, frequents these heights at this day, but the memorial of the eagles is indelibly written on one peak, called Benyellary—that is, in the departed Gaelic tongue —*beinn iolaire*, the eagle's hill.

LXXXIX

A Nor' Wester

During four whole days (December 1895) the wind has roared from the north and north-west, most of the time with the force of a heavy gale. This is unusual constancy

for rough weather on the west coast, where the normal wind-shift in areas of depression is generally easy to mark. The disturbance ended in a snow-storm, and this morning is beautifully bright, with a dead calm. Such a commotion as we have had in the atmosphere, always has a marked effect on the local distribution of birds, and there is evidence of this to-day in the population of our lake. Before the gale, there were plenty of mallard, teal, tufted duck, pochards, and widgeon, with a solitary pair of shovellers, which arrived early in the autumn. This morning six more shovellers have arrived, and a dozen golden-eyes, including two male birds in splendid plumage. Of the widgeon only two pairs remain; the rest are probably sunning themselves in the bay.

XC

Assisted Vision

A new joy has been added to field studies, so perfect as to exceed the most extravagant expectations. Everybody must have found the ordinary binocular unsatisfactory; both eye-pieces have to be adjusted to the same focus, and few people have eyes of even approximately equal power. Most sportsmen, therefore, adhere to the single spy-glass, which is excellent, no

doubt, but fatiguing to the eye. Herr Zeiss, of Jena, has come to the rescue by inventing a binocular, of which each tube is adjusted separately to focus. More—much more than that—the instrument is constructed on the reflecting principle of an astronomical glass, which gives great magnifying power within a very little compass, and, at the same time, extraordinary clearness of vision over an extended field. For deer-stalkers this invention is simply priceless, providing them with what is practically a pair of long-distance spectacles of high power, so light, that they may be fixed by a fastening round the head, leaving the hands free. Needless to say what a boon they will prove to the field naturalist.

As a source of amusement, and more than amusement, it is strange how seldom one sees the spy-glass made use of by people out for pleasure in the country. The flight of birds, the course of streams, mountains, rocks, ruined towers, passing ships—all contribute, often insensibly, to their enjoyment; yet it hardly ever occurs to anybody how indefinitely this enjoyment may be increased by very simple means. Even a small case of lenses of three powers, such as may be bought from any optician

for half-a-crown or three-and-sixpence, provides an avenue for a vast deal of harmless pleasure. I remember well, when grouse-driving one morning, how I delighted a young keeper who was loading for me, by the revelations of one such lens. He had never looked through one before, and he could hardly believe his eyes when it was directed on the caterpillar of an emperor moth, which happened to be crawling on the edge of our box. It is a handsome worm, even as seen by the naked eye, but when magnified, its vivid green skin and salmon-coloured warts present a splendid appearance.

It is good to show a young gardener through a lens some of the every-day phenomena that are around him at his work, such as the irritable movements of the stamens of any of the barberries (*Darwinii* is as good as any of them): how quickly they close up round the pistil on the insertion of any external object, be it point of pin or tongue of bee. Flowers present beauty in plenty to unassisted eyes, but there is a vast deal can only be enjoyed by help of a glass. Too many of us reject all auxiliaries to vision, till the mournful day comes—*bonjour, lunettes! adieu, fillettes!*—when we can no longer puzzle out the bill of fare without spectacles.

This quiet bay on the west coast, lit by the low winter sun, is a fair prospect without any need for artificial scrutiny, but a great deal is waiting to be revealed by the glass. On the right, the land rises into a bold, rocky promontory, whence the cliff falls almost vertically to the sea; in front, there is a curving sweep of sand, whereon often thunders the surf, but to-day only wavelets break with a gentle, measured throb. On the left, the land rises again, to descend to the shore in grassy slopes, and a long spit, boulder-strewn and fringed with golden tangle, runs out into the tide.

There are a couple of kestrels aloft, not hovering as they do when hunting for a meal, but playing with each other; now rising to a great height, and now plunging headlong with amazing speed, and recovering themselves within a few inches of the rocks below, wheel round the cliff in hot pursuit of each other—a magnificent display of wing power. Presently they alight together on the crag; direct the glass upon them, and you will be charmed with their beauty. They are not hawks these, but true falcons; the lens bring them so close that you can mark one of the badges of their clan—the dark iris, distinguishing the falcons from the yellow-eyed,

short-winged hawks. Despite his warlike mien and active habits, the kestrel is almost guiltless of destroying game. His staple diet consists of mice, beetles, and large moths; and if at times he is tempted to lift a young pheasant from the coops, it is an exceptional lapse from virtue which may well be overlooked, in consideration of the good service this bird renders to farmers and gardeners.[1]

Turning your glass now upon the shore, a great variety of life is revealed. Oyster-catchers are busily running to and fro in showy liveries of black and white, with legs and bills like red sealing-wax—'beaked and membered gules,' as the heralds would blazon it. The colouration of birds is a perpetual puzzle. Why should oyster-catchers have such conspicuous plumage, while the redshanks feeding beside and among them, resemble them only in the hue of their bills and feet, the prevailing tinge in their plumage being ash-brown? If protective colour have all the advantage claimed for it, how comes it that the gay oyster-catcher seems to

[1] Partial as I am to kestrels, and convinced of their blameless habits in general, I must admit that certain individuals acquire a depraved taste for young hand-reared pheasants, and that when they take to frequenting the coops there is nothing for it but to shoot them.

fare as well in the battle of life as his dusky companions?

Of sadder tinge even than the redshanks, dunlins, and sandpipers are the melancholy curlews, of which there are half-a-dozen down there, thrusting their long curved beaks into the ooze, and dragging out the hideous, but doubtless succulent, lug-worms. They are the most shy of all the plovers, but here, ensconced behind a grey stone wall, you may follow all their movements as minutely as if they were running about on your own drawing-room carpet. They are quaint old-world objects, such as one may imagine moving over the primeval ooze, among giant lizards of pleiocene design lying at unconscionable length in the sun. While you are watching the curlews—*swish*—a little bevy of swift birds sweep over the field with a single piping note, shrill and short. It is a vedette from a great army of golden plover in the ploughed lands above the cliffs, come down to whet their palates with a little sea fare.

There is a gaily-coloured group in the little sandy haven close to the boulder point; nine sheldrakes, brilliant with glossy green heads, snowy breasts and backs, chestnut flanks, and vermilion bills and legs.

Their daily diet of shell-fish and crustaceans render the flesh of these splendid birds so rank that nobody cares to shoot them, and they are fairly plentiful along this coast. They are remarkable as the only British members of the duck tribe of which the female is as brightly feathered as the male. She runs no risk therefrom in the nesting season, for she lays her eggs deep in some rabbit hole in the clean white sand of the links, where her gay mantle cannot betray her to passers-by. But this question is not easy to answer—did Nature indulge the female sheldrake with fine feathers in consideration of her subterranean habit of incubation? or has instinct prompted the said habit because of the coat of many colours?

Beyond the sheldrakes, where a little stream trickles out to sea through a bed of green weed, three couple of widgeon, liveliest and gracefullest of all British ducks, are sunning themselves. One of them, a female, is performing a singular movement, of which it is not easy to divine the meaning. As each wavelet rolls in she stoops to meet it, and plunges her face into the salt water. She neither can be drinking or eating, for she swallows nothing; nor can she be washing, for there is no

ambiguity about a duck's ablutions when it sets to work; the bird seems to be simply delighting in the sparkling water and bright sunshine, and she continues the motion as long as we continue to watch her.

There is a pale lean form visible at the edge of yonder floating tangle, so still and grey that it might easily escape observation, but that a brace of mischievous rooks, winging along the shore, turn aside to make an unfriendly demonstration towards it. This is a heron, lone and melancholy as the shade of departed chivalry; see how angrily he turns his sharp lance towards the intruders, who, after wheeling two or three times round him, wisely pursue their way, and the other resumes his fishing. He stands mid-thigh in the tide, his neck stiff and slightly projected, intently watching the fringe of seaweed. He has seen something; slowly, almost imperceptibly, he pushes himself a few inches forward, till within striking distance; like a flash he darts his head javelin-fashion under water, and when he raises it there is a fish of six inches between his serrated mandibles. Three times within ten minutes the same operation is successfully repeated; once he is baulked at the

critical moment by the return of those tiresome rooks; each time he secures a fish he turns towards the shore before swallowing it, just as a cautious human angler would do instinctively before unhooking a trout, so that if it fell it should be in shallow water.

XCI

Mistletoe

This morning (December 31st, 1896) we have been busy planting mistletoe berries on some young poplars. Though not indigenous to Scotland, having about the same northern range as the nightingale, mistletoe grows very well north of the Tweed if trouble be taken to sow it rightly. All that is required, is to smear the viscid berry on the under side of young branches (second year shoots are best) of such trees as the plant loves—poplar, apple, hawthorn, lime or acacia, without any incision or tying whatever. In a day or two the glutinous juice will have dried up, binding the seed safely to the bark; and so it will remain, till, some day next spring, you may notice a tiny green sprout, arching over and pressing its free end into the smooth bark. In that it disappears, and nothing more is seen for one, two, or even three

seasons, except a swelling of the branch where the young plant is sending its roots through the tissues of the host. At last, a pair of small green cotyledons are put forth, after which growth is steady and rapid. Do not be disappointed if your young plants do not bear berries at first; for they are dicœcious, that is, flowers of different sexes grow on separate plants, and require time to get acquainted with each other. But all will come in the end, and once mistletoe is established it is not easily got rid of.

THE END

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